United States Department of the Interior
Bureau of Land Management

Environmental Assessment WY-040-EA07-254
September 24, 2007

White Mountain – Little Colorado Herd Management Areas
Population Management Action and Environmental Assessment

Location: ***Rock Springs, Wyoming***
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APPENDICES

White Mountain – Little Colorado Herd Management Area Complex Population Management Action and Environmental Assessment

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1.0 PURPOSE & NEED

1.1 Introduction:

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental consequences of the White Mountain & Little Colorado Herd Management Area's (WMLC) Population Management Action as proposed by the Bureau of Land Management. The EA is a site-specific analysis of potential impacts that could result with the implementation of a proposed action or alternatives to the proposed action. The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any "significant" impacts could result from the analyzed actions. "Significance" is defined by NEPA and is found in regulation 40 CFR 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of "Finding of No Significant Impact" (FONSI). If the decision maker determines that this project has "significant" impacts following the analysis in the EA, then an EIS would be prepared for the project. If the decision maker determines that this project does not have "significant" impacts following the analysis, then an EA would be prepared for the project. A Decision Record may be signed for the EA approving one of the alternatives presented in the EA. A Decision Record (DR), including a FONSI statement, documents the reasons why implementation of the alternative selected would not result in "significant" environmental impacts (effects) beyond those already addressed in the Green River Resource Management Plan approved on August 8, 1997.

1.2 Background:

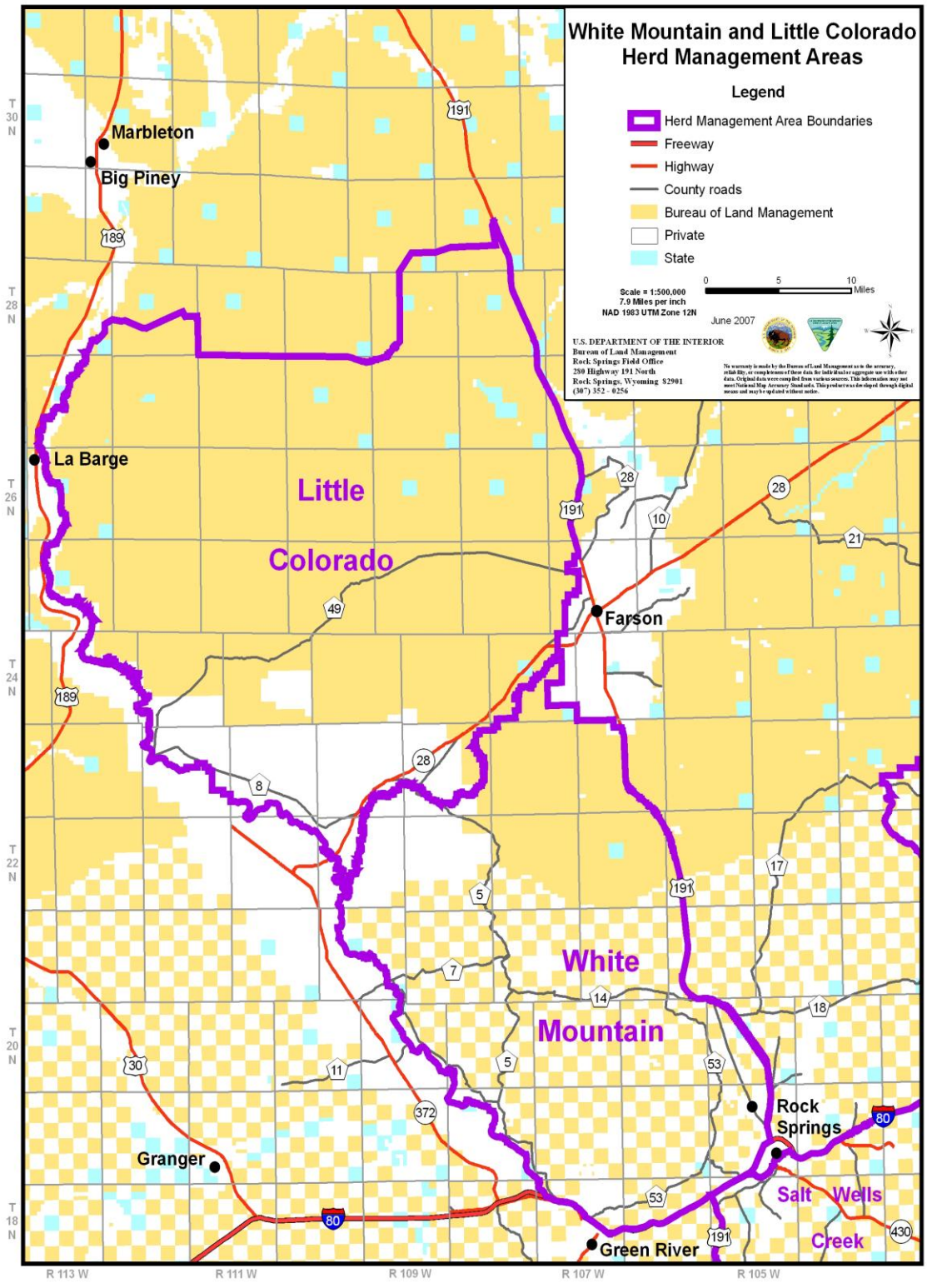
This Environmental Assessment (EA) has been prepared to analyze the environmental effects of potential population control methods (including fertility control treatment) in order to achieve and maintain the established Appropriate Management Levels (AMLs) for the White Mountain and Little Colorado Herd Management Areas (HMAs).

The proposed project area is located in southwest Wyoming within Sweetwater, Lincoln and Sublette Counties and covers approximately 1,019,938 acres of public, State and private lands and includes the two BLM herd management areas (HMAs) listed in Table 1.

Table 1. White Mountain – Little Colorado Project Area.

Area	Public Acres	Other Acres
White Mountain HMA	236,971	154,438
Little Colorado HMA	611,113	17,416
Total Acres (BLM)	848,084	171,854

Figure 1. Map of the Affected Area



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The AML for the White Mountain HMA was based on a 1979 agreement entered into by the Rock Springs Grazing Association and Wild Horses Yes, which provided for the management of specific numbers of wild horses on the privately controlled lands and the contiguous public lands within the White Mountain HMA. The AML was established in the 1997 Green River Resource Management Plan with a range of 205 to 300 adult horses based on this agreement. The Little Colorado HMA was established in August 1997, with the approval of the Green River Resource Management Plan. The AML for the Little Colorado HMA is set at a range of 69 to 100 adult horses.

Wild horses were last removed from the White Mountain HMA in November 2003, a total of 535 were captured; 397 were removed. At that time, the post-gather population was estimated at 205 horses. Wild horses were last removed from the Little Colorado HMA in November 2003, a total of 58 horses were captured, and 41 were removed. At that time, the post-gather population was estimated at 69 horses.

Aerial survey and distribution flights were completed in March 2007 in the White Mountain and Little Colorado HMAs. The March 2007 survey documented direct counts of 681 adult horses within the White Mountain HMA and 152 in the Little Colorado HMA.

The horses within the White Mountain and Little Colorado HMAs are currently in good physical condition. Some of the older animals and lactating mares may be in poorer condition.

Analysis of the above information indicates that excess wild horses are present and require immediate removal. As a result, any decision of the authorized officer will be implemented effective upon issuance under authority provided in 43 Code of Federal Regulations (CFR) 4770.3 (a) and (c).

1.3 Need for the Proposed Action

The proposed population management action is needed to remove the excess animals in order to achieve a thriving natural ecological balance between wild horse populations, wildlife, vegetation, and water resources and to protect the range from deterioration associated with overpopulation of wild horses as authorized under Section 3 (b) (2) of the 1971 Wild Free-Roaming Horses Act (1971 Act) and Section 302 (b) of the Federal Land Policy and Management Act of 1976.

1.4 Purpose(s) of the Proposed Action

The purpose of the proposed action and alternatives is to assure that wild horses are managed at the minimum feasible level of management and in consultation with State wildlife agency as required Section 3(a) of the 1971 Act. Applying fertility control protocol as a part of the proposed action would slow reproduction rates of mares returned to the White Mountain and Little Colorado HMAs following the gather, allowing vegetation resources time to recover. It would also decrease gather frequency and

disturbance to individual animals and the herd and provide for a more stable herd structure.

The proposed management actions are also needed to be in conformance with the August 2003 Consent Decree upheld by the United States District Court of Wyoming. This is an out of court settlement agreement between the State of Wyoming and United States Department of the Interior; Bureau of Land Management. This agreement specifies that when information is gathered that indicates that an HMA within the State of Wyoming is determined to be over the established AML, the BLM has one year from discovery to remove wild horses to the low range of AML.

1.5 Conformance with BLM Land Use Plan(s):

The proposed action and other action alternatives are in conformance with the Green River RMP approved on August 8, 1997. The Green River RMP objectives for management of wild horses are to: 1) protect, maintain, and control viable, healthy herds of wild horses while retaining their free-roaming nature; 2) provide adequate habitat for free-roaming wild horses through management consistent with principles of multiple use and environmental protection; and 3) provide opportunity for the public to view wild horses. Gathering and removal of excess wild horses from the White Mountain and Little Colorado HMAs is in conformance with the Green River RMP. Wild horse numbers that were agreed to with private land owners and wild horse advocacy groups were addressed in developing the RMP. Wild horse HMAs were established or confirmed through the Green River RMP planning process.

1.6 Relationship to Statutes, Regulations, or other Plans:

Public lands are managed under the Federal Land Policy and Management Act of 1976 (FLPMA). The FLPMA emphasizes that the public lands are to be managed to protect the quality of scenic, ecological, environmental, and archeological values; to preserve and protect public lands in their natural condition; to provide feed and habitat for wildlife and livestock; and to provide for outdoor recreation. The FLPMA also stresses harmonious and coordinated management of the resources without permanent impairment of the environment.

The proposed action and action alternatives are in conformance with Section 302 (b) of FLPMA. They are also in conformance with the regulations found at Title 43 CFR 4700 as follows:

- 43 CFR 4700.0-6 (a): *Wild horses shall be managed as self-sustaining populations of healthy animals and in balance with other uses and the productive capacity of their habitat.*
- 43 CFR 4700.0-6 (e): *Healthy excess wild horses for which an adoption demand by qualified individuals exists shall be made available at adoption centers for private maintenance and care.*

- 43 CFR 4710.4: *Management of wild horses shall be at the minimum level necessary to attain the objectives identified in approved land use plans.*
- 43 CFR 4720.1: *Upon examination of current information and a determination by the authorized officer that an excess of wild horses or burros exist, the authorized officer shall remove the animals immediately.*

No federal, state, or local law or requirement imposed for the protection of the environment will be threatened or violated under the proposed action or any action alternatives described in detail in this EA.

Conformance with Rangeland Health Standards and Guidelines

The proposed action and other action alternatives are in conformance with the Wyoming Rangeland Health Standards and Guidelines for Livestock Grazing Management. The proposed action will assist in maintaining the health of the public lands within the HMAs. A copy of Wyoming's Standards for Healthy Rangelands is available upon request from the RSFO.

1.7 Identification of Issues:

The Bureau of Land Management (BLM) Rock Springs Field Office sent out an initial scoping notice on June 15, 2007 for the proposed management of the wild horse population within the White Mountain and Little Colorado (WMLC) Herd Management Areas (HMAs). Eighteen comment letters were received in response to the proposed management action. The comments and opinions received represented a wide range of viewpoints. No new data was received to be analyzed. See Table 1: Critical Elements and Other Resources Checklist

Table 2: Critical Elements and Other Resources Checklist

CRITICAL ELEMENTS	Present	Affected	OTHER RESOURCES	Present	Affected
ACECs	**NO**	**NO**	Fire Management	**YES**	**NO**
Air Quality	**YES**	**NO**	Forestry and Woodland	**YES**	**NO**
Cultural	**YES**	**NO**	Land Use Authorizations	**YES**	**NO**
Environmental Justice	**NO**	**NO**	Livestock Management	**YES**	**MAY**
Floodplains	**NO**	**NO**	Minerals	**YES**	**NO**
Waste (Hazardous or Solid)	**NO**	**NO**	Paleontology	**YES**	**NO**
Noxious Weeds	**YES**	**MAY**	Rangeland Vegetation Resources	**YES**	**YES**
Native American Religious Concerns	**YES**	**Unknown**	Recreation	**YES**	**MAY**
Migratory Birds	**NO**	**NO**	Socioeconomics	**YES**	**NO**
Prime or Unique Farmlands	**NO**	**NO**	Soils	**YES**	**NO**
Riparian-Wetland Zones	**YES**	**NO**	Visual Resources	**YES**	**NO**
T&E Species	**YES**	**NO**	Wild Horses	**YES**	**YES**
Water Quality	**NO**	**NO**	Wildlife	**YES**	**MAY**
Wild and Scenic Rivers	**NO**	**NO**	Wilderness and Wilderness Study Area	**NO**	**NO**

The following resources identified as affected, or may be affected have relevant issues that cannot be dismissed and will be carried through analysis in the EA:

Wildlife
Special Status Species
Vegetation, Soils and Noxious Weeds
Recreation
Wild Horses
Livestock Management

1.8 Summary:

This chapter has presented the purpose and need of the proposed project, as well as the relevant issues, i.e., those elements of the human environment that could be affected by the implementation of the proposed project. In order to meet the purpose and need of the proposed project in a way that resolves the issues, the BLM has developed a range of action alternatives. These alternatives, as well as a no action alternative, are presented in Chapter 2. The potential environmental impacts or consequences resulting from the implementation of each alternative are then analyzed in Chapter 4 for each of the identified issues.

2.0 DESCRIPTION OF ALTERNATIVES, INCLUDING PROPOSED ACTION

This section of the EA describes the proposed action and alternatives, including any that were considered but eliminated from detailed analysis. Alternatives analyzed in detail include the following:

- Alternative A : Proposed Action - Remove Excess Animals (Lower Limit of AML range); Implement Two-Year Fertility Control Protocol

- Alternative B: Remove Excess Animals (Lower Limit of AML range) without Fertility Control Protocol

- Alternative C: No Action Alternative (Defer Population Control)

2.1 Introduction:

The proposed action and other action alternatives were developed to meet the purpose and need (i.e. achieve and maintain AML and prevent further range deterioration). Although Alternative C (Defer Population Control) does not comply with the 1971 Wild Free-Roaming Horses Act (as amended), nor meet the purpose and need for action, it is included as a basis for comparison with the action alternatives.

2.2 Alternative A: Proposed Action

Actions Common to Alternative A: Proposed Action and Alternative B:

The following actions are common to Alternatives A and B:

- All capture and handling activities would be conducted in accordance with the Standard Operating Procedures (SOPs) described in Appendix I. Multiple capture sites (traps) would be used to capture wild horses within the White Mountain and Little Colorado HMAs. Whenever possible, capture sites would be located in previously disturbed areas. Capture techniques would be the helicopter-drive trapping method and/or helicopter-roping from horseback. Bait trapping may also be utilized on a limited basis, as needed.
- To the extent possible all horses found outside of the HMA boundaries will be removed.
- An Animal and Plant Inspection Service (APHIS) veterinarian will be on-site, as needed, to examine animals and make recommendations to BLM for care and treatment of wild horses in accordance with Washington Office Instruction Memorandum (IM) 2006-23. On-site inspection by an APHIS veterinarian is required for any animals to be transported across State borders without testing for Equine Infectious Anemia (EIA) prior to transport. (A copy of this I.M. can be reviewed upon request at the RSFO.)

- Selection of animals for removal and/or release would also be guided by BLM's *Gather Policy and Selective Removal Criteria for Wild Horses* (Washington Office IM 2005-206). (A copy of this I.M. can be reviewed upon request at the RSFO.)

Alternative A: Proposed Action – Remove Excess Animals (Lower Limit of AML range); Implement Two-Year Fertility Control Protocol

The Proposed Action is to gather approximately 80-**85**% (654-**695** wild horses) of the current estimated wild horse population within the White Mountain HMA consisting of approximately 817 wild horses and to gather approximately 80-**85**% (146-**155** wild horses) of the current estimated wild horse population within the Little Colorado HMA consisting of 182 wild horses. The total population for each HMA is based on the March 2007 survey flights plus a 20% increase for this year's foal production. Of the animals gathered, approximately **610** excess wild horses in the White Mountain HMA and **115** excess wild horses in the Little Colorado HMA would be removed and shipped to BLM holding facilities in either Rock Springs, **Wyoming**, or Canon City, Colorado. Once there, the horses will be prepared for adoption and/or sale to qualified individuals or sent to long term holding facilities. The projected population remaining on the range following the gather would be about 205 wild horses in the White Mountain HMA and about 69 in the Little Colorado HMA.

Of the **75 to 125** wild horses returned to the two HMAs post-gather, 50-55% would be studs (**40-70**) with the remainder mares (**35-**55). All the mares released would be subject to fertility control experimentation research protocol with a two-year treatment of Porcine Zonae Pellucida (PZP). Fertility control would be conducted in accordance with Standard Operating Procedures as described in Appendix II.

2.3 Alternative B: Remove Excess Animals (Lower Limit of AML range) Without Fertility Control

The Proposed Action is to gather approximately 7**5**% (**610** wild horses) of the current estimated wild horse population within the White Mountain HMA consisting of approximately 817 wild horses and to gather approximately **65**% (**115** wild horses) of the current estimated wild horse population within the Little Colorado HMA consisting of 182 wild horses. The total population for each HMA is based on the March 2007 survey flights, plus a 20% increase for this year's foal production. Of the animals gathered, approximately **610** excess wild horses in the White Mountain HMA and **115** excess wild horses in the Little Colorado HMA would be removed and shipped to BLM holding facilities in either Rock Springs, **Wyoming**, or Canon City, Colorado. Once there, the horses will be prepared for adoption and/or sale to qualified individuals or sent to long term holding facilities. The projected population remaining on the range following the gather would be about 205 wild horses in the White Mountain HMA and about 69 in the Little Colorado HMA.

Unlike the Proposed Action, any mares returned following the gather to the HMAs would not be subject to fertility control experimentation research. All other capture and handling activities would be the same as described for the Proposed Action.

2.4 Alternative C: No Action Alternative (Defer Population Control)*:*

Under the No Action Alternative, a gather to remove excess wild horses within the project area would not take place in November 2007. There would be no active management to control the size of the wild horse populations at this time. However, existing management including monitoring would continue.

The Wild Free-Roaming Horses and Burros Act requires the Bureau to prevent the range from deterioration associated with overpopulation of wild horses, and to preserve and maintain a thriving natural ecological balance and multiple use relationship in that area. The No Action Alternative would not comply with the 1971 Act or with applicable federal regulations and Bureau policy; nor would it comply with Wyoming's Rangeland Health Standards and Guidelines for Livestock Grazing Management. This alternative does not comply with the consent decree issued by the United States District Court of Wyoming. It is included as a baseline for comparison with the action alternatives, as required under NEPA.

2.5 Alternatives Considered, but Eliminated from Further Analysis:

Change the Current Established AMLs

The Rock Springs Grazing Association and Wild Horses Yes entered into an historic agreement in 1979 which provided for the management of specific numbers of wild horses on the privately controlled lands and the contiguous public lands within the White Mountain HMA. The agreement was confirmed in a 1981 District Court Order based on this agreement. The AML of with a management range of 205 to 300 wild horses in the White Mountain HMA and a management range of 69 to 100 wild horses was established in the 1997 Green River Resource Management Plan. Ignoring existing policy, planning decisions, and agreements reached pursuant to the District Court Order are not considered options nor are they within the scope of this EA. Without the cooperation of the private land owners within three HMAs in the Rock Springs Field Office, White Mountain, Salt Wells Creek and Divide Basin HMAs could be dissolved.

2.6 Summary of Compared Alternatives

Table Three shows a summary of the alternatives.

Table 3. Comparison of Alternatives

Alternative	Number of Wild Horses Captured	Number of Wild Horses Removed	Number of Wild Horses Released	Data Collection	Selective Removal Criteria Implemented	Fertility Control Used	Number of Mares Treated with Fertility Control
Alternative A	**850**	**725**	**125**	Yes	Yes	Yes	**55**
Alternative B	**725**	**725**	0	Yes	Yes	No	0
Alternative C No Action Alternative	0	0	0	No	No	No	0

3.0 AFFECTED ENVIRONMENT

This section of the environmental assessment briefly discusses the relevant components of the human environment which would be either affected or potentially affected by the proposed action and alternatives (refer to Table 2 Critical Elements and Other Resources Checklist, located in section 1.7 of this document). Direct impacts are those that result from the management actions while indirect impacts are those that exist once the management action has occurred. By contrast, cumulative impacts result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such action. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

3.1 Introduction:

This chapter presents the potentially affected existing environment (i.e., the physical, biological, social, and economic values and resources) of the impact area as identified in the Interdisciplinary Team Analysis Record Checklist found in Table 2 and presented in Chapter 1 of this assessment. This chapter provides the baseline for comparison of impacts/consequences described in Chapter 4.

3.2 General Setting:

The area covered by this analysis is within the jurisdiction of the Rock Springs Field Office, Wyoming BLM. It is bordered on the south by Interstate Highway 80, on the east by Wyoming Highway 191, on the north by the Rock Springs and Pinedale Field Office boundary, and on the west by the Green River. As shown in Table 1, over one million

acres of public, State, and private lands are included in this analysis. Map 1 portrays the analysis area. The majority of the private land holdings in the White Mountain HMA are in a checker board land pattern with every other section alternating between public and private. The Little Colorado HMA consists mostly of Bureau of Land Management and Bureau of Reclamation lands managed by the Rock Springs Field Office.

Elevation ranges from 6,330 feet along Alkali Creek, to over 7,932 feet on Pilot Butte. Summers are hot, and winters can range from mild to bitterly cold. Annual precipitation ranges from less than 7 to more than 12 inches per year. About half of the precipitation falls during the growing season from April through June, with the remainder coming in high intensity summer thunderstorms. Much of the precipitation from summer thunderstorms runs off in numerous drainages. Some of this water is captured in reservoirs or pits and is the primary source of water for wild horses, livestock, and wildlife.

3.3 Critical Elements of the Human Environment and Other Resources Brought Forward for Analysis:

The following critical or other elements of the human environment are present and may have potential to be affected by the proposed action or the alternatives:

3.3.1 Wildlife

Wildlife, Threatened and Endangered Species, Special Status Species and Migratory Birds

The mosaic of plant communities and topographic features that are found throughout the HMAs support a wide variety of wildlife species that use the various habitats for resting, courtship, foraging, travel, supplies of food and water, thermal protection, escape cover and reproduction.

A variety of wildlife species occur or have the potential to occur in the project area including mule deer, pronghorn antelope, elk, moose, coyote, red fox, bobcat, desert cottontail, Wyoming ground-squirrel, horned lark, raven, magpie, and common nighthawk. Mule deer, elk, and pronghorn antelope utilize the project area year-round. Approximately 30% of the project area is identified a crucial winter range for these species. For a complete list of species found within the RSFO's jurisdiction, see the Green River RMP and FEIS dated March 1996.

<u>Pronghorn Antelope</u>

The HMAs include a portion of the Sublette Herd Unit. The Sublette pronghorn antelope herd is at 89% of its population objective. The Sublette herd was at 42,500 animals in 2005 (the most current information available). Pronghorn antelope utilize the upland portion of the project area year-round, and approximately 20% of the gather area is

identified as crucial winter range for pronghorn antelope. The Wyoming Game and Fish Department (WGFD) do not classify parturition (birthing) range for pronghorn antelope.

Pronghorn antelope live year round and winter in much of the HMAs. During the winter months they often form loose aggregations and feed primarily on sagebrush. They consume snow for their water needs during winter when open sources of water are not available. Winter weather may be the most limiting factor to pronghorn populations. Severe winters with deep-crusted snow and sub-zero temperatures can limit access to food and greatly increase the animal's caloric needs resulting in very high mortality. One example of this is the winter of 1971-1972 when the Sublette herd alone was reduced by 74%.

Mule Deer

The HMAs encompasses portions of the Steamboat and Sublette deer herd units. Approximately 5% of the project area is identified a crucial winter range for deer. There are no designated mule deer parturition areas in the HMAs. Current populations are estimated at 4,400 (110% of the WGFD herd objective) for the Steamboat herd and 26,633 (83% of objective) for the Sublette herd. They utilize both rangelands and forest, feeding primarily on brush and trees in the winter.

Elk

The HMAs lie within the Steamboat and Pinedale herd units. Elk utilize portions of the HMAs year round, and approximately 5% of the project area is identified as crucial winter and\or parturition range for elk. The Steamboat elk herd has been gradually decreasing for several years now and is now believed to be at, or near the population objective level of 1,200 elk (pers comm. Frost). The Pinedale herd is estimated to be at 1,720 animals (91% of population objectives).

Moose

Moose occur in the project area year round along the river bottoms, occasionally venturing into the uplands. The Sublette herd and the West Green River portion of the Lincoln herd occur along the western boundaries of the HMAs. The Sublette herd is estimated to be at 4,107 animals (75% of objective) and the West Green River portion of the Lincoln herd is considered to be an insignificant portion of the herd which is at 1,359 (85% of the herd objective). Crucial winter range occurs in less than 2% of the project area. Moose are not expected to be impacted by the hose gather and will not be discussed further in this document.

Raptors

There are approximately 300 raptor nests in the HMAs. The vast majority of these nests are located within the river riparian areas. The gathers are not expected to directly or indirectly impact raptor nesting. The area also supports winter populations of golden

eagles (*Aquila chrysaetos*) and rough-legged hawks (*Buteo lagopus*). These birds could be temporarily displaced by the proposed action. Any impacts to individual birds will be a short-term minor disturbance. This action does not classify as harmful to golden eagles under the Bald and Golden Eagle Protection Act of 1940, or "disturbed" under the Eagle Act which was recently defined via a final rule published in the Federal Register on June 5, 2007 (72 Fed. Reg. 31332). These birds will not be discussed further in the document.

Threatened, Endangered, Proposed and Candidate Species

Eight federally designated threatened, endangered, proposed, or candidate animal species and one plant species have the potential to be present or impacted by actions within the project area.

Black Footed Ferret (*Mustela nigripes*)

Potential black-footed ferret habitat may exist in the HMA. Surveys conducted in relation to other development activities in the Little Colorado HMA have not recorded black-footed ferrets. The majority of prairie dog towns within the HMAs have been declared by the FWS as not meeting necessary requirements for supporting black footed ferrets, therefore do not require surveys to be performed prior to federally proposed actions taking place. There is however, a 1,000 acre parcel in the southwestern area of the Little Colorado HMA that has not been determined to be free of black-footed ferret habitat. This area has no recorded prairie dog towns in it. Horse trap sites and staging areas associated with gathers are never placed in prairie dog towns due to the possibility of horses breaking their legs in the burrows. This action will have no impacts to black-footed ferrets and this species will not be addressed further in the document.

> ***Determination*:** The implementation of the proposed action would result in a "**no affect**" determination for the black-footed ferret because gathers are not conducted in prairie dog towns (ferret habitat).
> ***Minimization Measures*:** None required

Ute Ladies'-tresses (*Spiranthes diluvialis*)

Ute Ladies'-tresses habitat is not known to occur within the HMAs, and all riparian areas are avoided. Eight surveys conducted over the last 9 years have not identified the plant within the Rock Springs Field Office. This action will have no impacts to this species and will not be addressed further in the document.

> ***Determination*:** The implementation of the proposed action will result in a "**no effect**" determination for the gather.
> ***Minimization Measures*:** None required.

Gray Wolf (*Canis lupus*)

The gray wolf in this area is classified as part of a non-essential experimental population. No resident or transient wolves have been identified in this area. It is entirely possible that a transient individual may pass through this area looking for a mate or home range. This action will have no impacts to this species and will not be addressed further in the document.

> ***Determination*:** "**Not likely to jeopardize**" the continued existence of this experimental population of gray wolf.

***Minimization Measures*:** None required.

Colorado River Water Depletions Bonytail (*Gila elegans*), Colorado pikeminnow (*Ptychocheilus lucius*), Humpback chub (*Gila cypha*), and Razorback sucker (*Xyrauchen texanus*)

No water usage or water developments are associated with this action. This action will have no impacts to these species and will not be addressed further in the document.

***Determination*:** The implementation of gather will result in a "**no effect**" determination.

***Minimization Measures*:** None Required.

Sensitive Species Wildlife

A number of animal species potentially present in the project area have been accorded "sensitive species" status (IM WY-2001-040). Sensitive species potentially present in the Little Colorado and White Mountain HMAs include: Wyoming pocket gopher and pygmy rabbit, spotted bat, white-tailed prairie dog, and greater sage-grouse. Wyoming pocket gopher, pygmy rabbit burrows will be avoided for gather sites and the individuals will hide in their burrows if horses are passing by. Impacts to white-tailed prairie dog, greater sage-grouse are expected to be temporary as the horses make one pass through. These animals are expected to resume their normal activities quickly after the disturbance.

Other sensitive species occurring in this area; Ferruginous hawk, spotted bat, sage thrasher, loggerhead shrike, Brewer's sparrow, sage sparrow, and mountain plover will have migrated to their wintering grounds before the gather occurs. The northern leopard frog and Great Basin spadefoot toad should be hibernating long before the gather. No impacts are expected to these species and they will not be discussed further.

White-tailed prairie dog

There are 62 white-tailed prairie dog towns within the Little Colorado HMA and 2 white-tailed prairie dog towns within the White Mountain HMA. Horse trap sites and staging areas associated with gathers are never placed in prairie dog towns due to the possibility of horses breaking their legs in the burrows. This action will have no impacts to white-tailed prairie dogs because prairie dog towns are always avoided for horse safety reasons and this species will not be addressed further in the document.

Bald Eagle

Bald eagles have been recorded nesting along the Green and Big Sandy rivers. The gather will not take place during the nesting period, nor will the gather occur in, or near the stream banks. There may be individual birds roosting along the Green and Big Sandy rivers during the gather that could be momentarily disturbed. This action does not classify as harmful to bald eagles under the Bald and Golden Eagle Protection Act of 1940, or "disturbed" under the Eagle Act which was recently defined via a final rule published in the Federal Register on June 5, 2007 (72 Fed. Reg. 31332).

Greater Sage-Grouse

BLM records indicate that there are approximately 29 greater sage-grouse leks and associated nesting habitat within the White Mountain and Little Colorado HMAs. Additionally, there is some winter use by greater sage-grouse in the northern panhandle of the Little Colorado HMA.

Mountain Plover

Mountain plover have been recorded in the project area. Mountain plover will have already migrated to their winter grounds prior to the gather.

3.3.2 Vegetation, Soils, Noxious Weeds

There are a variety of vegetation types in the RSFO areas where wild horses can be found, both within and outside of wild horse HMAs. Vegetation types include: sagebrush, sagebrush/grass, saltbush, greasewood, desert shrub, juniper, grass, meadow, riparian, conifer, mountain shrub, half shrub and perennial forbs, and badlands. The predominant vegetation type is sagebrush/grass.

Plant communities are very diverse in this large area, reflecting the diversity in soils, topography, and geology found there. The high-elevation, cold-desert vegetation of the project area is composed predominately of Wyoming big sagebrush/grass and Gardner saltbush vegetation communities. Other plant communities present are: desert shrub, grassland, mountain shrub, juniper woodlands, and a very few aspen woodlands. Needle-and-thread, Indian ricegrass, bluebunch wheatgrass, western wheatgrass, junegrass, basin wild rye, and threadleaf sedge are the predominant grasses and grass-like species. Wyoming big sagebrush, black sagebrush, bud sage, birdsfoot sage, Gardner's saltbush, spiny hopsage, four-wing saltbush, greasewood, bitterbrush, winterfat, horsebrush, Douglas and rubber rabbitbrush, and true mountain mahogany are important shrub species. Forbs are common and variable depending on the range site and precipitation zone.

Wild horses generally prefer perennial grass species as forage. Shrubs are more important during the fall and winter. The species of grasses preferred depends on the season of the year. Needle-and-thread and Indian ricegrass are most important during the winter and spring and wheatgrasses during the summer and fall.

The soils in the HMAs are highly variable in depth and texture as would be expected when one pictures the great variability in geology and topography that characterizes the area. Generally, the eastern third is a mix of sandy soils with high wind erosion potential and clayey soils with high water erosion potential, low bearing strength and varying amounts of salts. The western third has more loamy inclusions in the form of undulating uplands and alluvial complexes, with moderate erosion potential, while the middle third is a mixture of both. Virtually any soil condition that may be encountered in the region

can be found somewhere within the HMAs. More specific soils information can be found in the draft soil surveys located in the BLM files in the RSFO.

Special status plants are those species that are federally listed as threatened or endangered, proposed for listing, or candidates for listing under the Endangered Species Act (ESA). They also include species designated by each BLM State Director as sensitive and those listed or proposed for listing by a state in a category implying potential endangerment or extinction. The BLM is mandated to protect and manage threatened, endangered, candidate, proposed, and sensitive species and their habitats. The Wyoming BLM special status plant species that grow, or have potential habitat in the project area are listed in the following table.

Table 4 Wyoming Special Status Plant Species

Common Name	Scientific Name	Habitat
Trelease's milkvetch	*Astragalus racemosus* var. *treleasei*	Sparsely vegetated sagebrush communities on shale or limestone outcrops & barren clay slopes at 6500-8200'
Cedar Rim thistle	*Cirsium aridum*	Barren, chalky hills, gravelly slopes, & fine textured, sandy-shaley draws at 6,700 - 7,200'
Large-fruited bladderpod	*Lesquerella macrocarpa*	Gypsum-clay hills & benches, clay flats, & barren hills 7,200-7,700'
Beaver Rim phlox	*Phlox pungens*	Sparsely vegetated slopes on sandstone, siltstone, or limestone substrates 6,000-7,400'

Weeds

Federal agencies are directed by Executive Order 13112, Invasive Species, to expand and coordinate efforts to prevent the introduction and spread of invasive plant species (noxious weeds) and to minimize the economic, ecological, and human health impacts that invasive species cause. Weed populations are generally found along main dirt roads and two-tracks, in areas of livestock concentration, and in areas of intense recreational use. However, recent rangeland health monitoring has documented significant increases in invader species throughout the uplands. Motorized vehicles transporting seeds can be a major source of new infestations of weed species. The majority of the area has not been surveyed for noxious weeds. Noxious weed and other invasive species known to occur in the area include: Perennial pepperweed, hoary cress, houndstongue, Canada thistle, saltcedar, henbane, halogeton, Russian thistle, gumweed, goosefoot, and assorted mustards.

3.3.3 Recreation

The public enjoys seeing wild horses roaming free in the Rock Springs Field Office areas. The White Mountain HMA has a designated wild horse loop driving tour with several stops with kiosk's describing the habitat and the HMA. In fiscal year 2007, 68,653 visitors accessed the Pilot Butte turnout at the center of the Wild Horse Loop Tour

route. Two outfitters are currently permitted to operate in the White Mountain/Little Colorado HMAs for the purpose of bringing tourists to view wild horses.

Other recreation in the project area is quite dispersed with the greatest amount occurring during the hunting seasons for the various game animals and birds. Primary recreational activities other than hunting includes camping, hiking, mountain biking, rock hounding, photography, wildlife and wild horse viewing, off highway vehicle (OHV) use and sightseeing.

3.3.4 Wild Horses

The White Mountain and Little Colorado HMAs are managed by the Rock Springs Field Office. The two HMAs consist of approximately 1 million acres in size. The White Mountain HMA is approximately 391,409 acres of which 236,971 acres are public and the remaining acres are privately controlled. The majority of the private land holdings in the White Mountain HMA are in a checker board land pattern with every other section alternating between public and private owned or controlled land. The aforementioned land status pattern stems back to the land grants given to the railroad companies (in this case, the Union Pacific Railroad Company) to develop transportation corridors in the west. The Rock Springs Grazing Association has a grazing lease and is currently in control of a majority of the private lands in the checker board within the White Mountain HMA.

Historically, the wild horses residing within the White Mountain and Little Colorado HMAs have had free and fairly unrestricted movement between the two HMAs across the Big Sandy River. Past capture, census, genetic health, and distribution data collected indicate movement and interchange among the horses of these two HMAs.

The Rock Springs Grazing Association and Wild Horses Yes entered into an historic agreement in 1979 which provided for the management of specific numbers of wild horses on the privately controlled lands and the contiguous public lands within the White Mountain HMA. The AML of 250 wild horses was established in the 1997 Green River Resource Management Plan with a management range of 205 to 300 adult horses. Without the cooperation of the private land owners, the White Mountain HMA in the Rock Springs Field Office could be dissolved.

The current population for the White Mountain HMA is currently projected at 817 wild horses based upon the direct count of horses from the March 2007 flights.

The Little Colorado HMA was established in the 1997 Green River Resource Management Plan with an appropriate management level range of 69 to 100 adult horses.

The current population for the Little Colorado HMA is currently projected at 182 wild horses based upon the direct count of horses from the March 2007 flights.

Wild horses were last removed from the White Mountain and Little Colorado HMAs in November 2003 when a combined total of 535 horses were captured and 438 horses were removed. At the time, the combined post-gather population was estimated at 274 horses.

Baseline genetic diversity data has not been collected for the Little Colorado HMA, but may be collected from the gathered horses from the proposed November 2007 gather. Baseline genetic diversity data was collected in 2001 for the White Mountain HMA. The blood samples were analyzed by Dr. E. Gus Cothran, Department of Veterinary Science, and the University of Kentucky. His conclusions and recommendations regarding genetic diversity in the White Mountain herd is partially summarized as follows:

Gus Cothran stated, "Total genetic diversity in the White Mountain herd is relatively high, thus if population sizes are maintained at a level greater than 100 adult animals there should be little concern over the next few years. It would be useful to determine (if it is not known) whether there are actual subdivisions within the population that restrict gene flow among subgroups. At this point I would only recommend monitoring of population size. If the population size is less than 100 the herd should be monitored more closely, especially keeping a lookout for decreased foal production or increases in deformed or unhealthy looking foals. Loss of genetic variation can occur rapidly in small populations. The White Mountain herd appears to have a good base level of variability and considering that most of the sampled horses were older than six years, so that an increase in heterozygosity is possible."

3.3.5 Livestock Management

Domestic livestock are authorized to use the public lands under the authority of the Taylor Grazing Act, as amended. Livestock belonging to specific livestock operators are authorized to use specific areas of rangeland (grazing allotments) for specified periods of time in specified numbers. Eight of the 80 grazing allotments in the RSFO jurisdiction occur within the White Mountain and Little Colorado HMAs. The current status of livestock grazing in the two HMAs is depicted in Appendix IV. In all cases, the grazing allotment and the authorization of livestock use predate passage of the Wild, Free-roaming Horse and Burro Act.

The rangelands in the HMAs provide seasonal grazing for livestock (cattle and sheep). Wherever domestic livestock are authorized to use the public lands, range developments are present. Most of these projects are operated and maintained by the livestock operators and they all affect wild horses. Fencing is primarily used to keep livestock in specific allotments during specified seasons of use. Livestock water is provided by springs, wells, intermittent and ephemeral streams, pipelines, and reservoirs. Sheep primarily use snow in the winter as a water source. Sheep grazing occurs mostly within the winter period while cattle grazing is evenly distributed through the seasons. The overall decline in the range sheep industry has resulted in a low and variable rate of actual use by sheep operators. Cattle use levels have been fairly constant in recent years. Some sheep operators have expressed interest in converting their idle sheep grazing use into active cattle grazing.

4.0 ENVIRONMENTAL IMPACTS

This section of the environmental assessment briefly discusses the Direct and Indirect impacts to each resource which would be either affected or potentially affected by the proposed action and alternatives (refer to Table 2 Critical Elements and Other Resources Checklist, located in section 1.7 of this document). Direct impacts are those that result from the management actions while indirect impacts are those that exist once the management action has occurred.

4.1 Introduction:

This chapter presents the Direct and Indirect impacts to each resource which would be either affected or potentially affected by the proposed action and alternatives described in the affected environment section.

4.2 Direct/Indirect Impacts:

The direct / indirect impacts for each affected resource are presented below:

4.2.1 Alternative A – Remove Excess Animals (Lower Limit of AML range); Implement Two-Year Fertility Control Protocol

See sections 2.2, 2.3 and 2.4 of this document for a detailed description of the proposed action alternative A and alternatives B and C. The impacts of the proposed action and alternatives are discussed below in this chapter.

4.2.1.1 Wildlife

Impacts of Alternative A: Proposed Action - Remove Excess Animals (Lower Limit of AML range); Implement Two-Year Fertility Control Protocol

Wildlife adjacent to trap sites would be temporarily displaced during capture operations by increased activity of trap setup, helicopters and vehicle traffic, but in most cases this displacement should only last 2-3 days in each trap area. Since the roundup is scheduled for November, stress and energy loss due to displacement could have some minor impact on big game. Reduction of wild horse numbers would result in reduced competition for forage and water resources between wild horses and wildlife. The short-term stress and displacement during the gather operations should result in long-term benefits in improving habitat condition.

Direct impacts to wildlife will be that of a temporary disturbance to animals near the trap site during construction, gather operations, or in the path of the helicopter when it passes by. These disturbances are temporal in nature and unlikely to pose any serious threat. Indirect impacts would be an animal(s) being disturbed by other animals running in avoidance of the helicopter or other gather personnel. Wildlife populations in areas where excess wild horses are gathered could be disrupted for a short time during the

gathering operations. Once gathering operations cease, these effects would stop. The short-term effects are a result of human presence and the noise of the helicopter causing wildlife to seek cover in areas away from gathering routes. However, large game species should return to the area within a few days. Capture activities would not cause permanent abandonment of these areas. There would be no long-term adverse effect on wildlife.

BLM data and past experience show that removal of excess horses from areas of wild horse concentration would improve habitat conditions for wildlife. This effect would be most pronounced around water sources and would benefit both game and non-game wildlife. Maintaining wild horse populations at AML by the removal of excess wild horses and fertility control treatments enables wildlife populations to utilize the forage that would otherwise be used by the excess wild horses

Cumulative Impacts

Cumulative impacts to wildlife are expected to be positive by the removal of excess horses from the range. The removal of the excess horses should improve the overall health of the range, thereby benefiting all inhabitants of the range. The wildlife should also benefit from the reduction in competition for water, forage and space. No cumulative adverse impacts to general wildlife are anticipated. Cumulative impacts for individual species are only discussed if specific effects are anticipated.

Mitigation Measures

Under the proposed measures of this plan, no mitigation measures should be necessary for wildlife except as noted under Mitigative Measures.

Big Game (Pronghorn Antelope, Mule Deer, and Elk)

Direct and Indirect Impacts

Direct impacts to big game would be that of a temporary disturbance to animals near the trap site during construction; gather operations or those animals in the path of the helicopter when it passes by. These disturbances are temporary in nature and unlikely to pose any serious threat. Indirect impacts would be an antelope being disturbed by the horses or other large animals running in avoidance of the helicopter or gather personnel.

Cumulative Impacts

Cumulative impacts to big game are expected to be positive by the removal of excess horses from the range. The removal of excess horses should improve the overall health of the range, thereby benefiting all inhabitants of the range. The big game should also benefit from the reduction in competition for water and forage (Meeker, J.O.1982, Stephenson, T.E. 1982). Stephenson (1982), found a 60% dietary overlap between pronghorn antelope and feral horses.

4.2.1.2 Vegetation, Soils & Weeds

Impacts of Alternative A: Proposed Action - Remove Excess Animals (Lower Limit of AML range); Implement Two-Year Fertility Control Protocol

The removal of excess wild horses from inside the project area and associated non-HMA areas would circumvent over-utilization of forage and further reduction in vegetative ground cover. The quantity of forage throughout the HMAs could be increased. Impacts from wild horses could diminish and be beneficial. Vegetation composition, cover, and vigor could improve or be maintained near water sources where wild horses tend to congregate. An improvement in forage condition could lead to improved livestock distribution, which would prevent over-utilization and reduction in vegetation cover. Vegetative diversity and health should improve in areas where excess wild horses are removed. Adverse, short term effects to vegetation and soils would occur at trap sites when gathers are being conducted. Vegetation would be disturbed by trap construction, and short term trails and soil compaction may develop near and in the trap. Any vegetation removed would be minimal and localized.

Sheet and rill erosion would not exceed natural levels for the sites because the maintenance of AMLs would help ensure that a natural ecological balance would be maintained in and adjacent to the HMAs. Perennial vegetation would continue to experience season-long grazing pressure, which is not conducive to optimum plant health and vigor. Soil erosion and plant health would continue to be compromised around water locations, but elsewhere impacts should be minimal. Watershed health should improve throughout much of the area.

Special Status Plant Species

All existing sites for horse gather facilities have been surveyed for special status plant species and have been cleared. If any other sites are proposed they will be surveyed and cleared before operations begin. There should not be any impacts to sensitive species as a result of implementing the Proposed Action since site specific analysis will be completed if surface disturbing activities will occur.

The over-utilization of range resources and subsequent reduction in vegetative ground cover promotes the establishment and spread of invasive species. The removal of excess wild horses could aid in the curtailment of the introduction and spread of noxious weeds and other invasive species. Any noxious weed species found will be treated in accordance with BLM policy.

4.2.1.3 Recreation

Impacts of Alternative A: Proposed Action - Remove Excess Animals (Lower Limit of AML range); Implement Two-Year Fertility Control Protocol

Implementation of the proposed action would be expected to improve rangeland health which would potentially enhance the aesthetic quality of recreational opportunities, such

as hiking, wildlife viewing, and hunting. Opportunities to view wild horses in the HMAs would continue, however, there would be fewer animals in better body condition available for viewing than at present. Fertility control treatment would be expected to slow population growth; opportunities to view mares with foals during the next 2-3 years would be reduced over the present situation. During the capture operation it may be necessary to temporarily close BLM roads to allow for the safe and humane capture of wild horses. This would be accomplished in a manner to impact the fewest recreational users as possible.

4.2.1.4 Wild Horses

Population modeling was completed for the three alternatives to analyze possible differences that could occur to the wild horse populations between alternatives. Modeling was completed for the White Mountain and Little Colorado HMAs. One objective of the modeling was to identify if any of the alternatives "crash" the population or cause extremely low population numbers or growth rates. Minimum population levels and growth rates were found to be within reasonable levels and adverse impacts to the population are not likely. Graphic and tabular results are displayed in detail in Appendix III.

Impacts of Alternative A: Proposed Action – Remove Excess Animals (Lower Limit of AML range); Implement Two-Year Fertility Control Protocol

Under the Proposed Action, the post-gather population of wild horses for the White Mountain HMA would be about 205 and Little Colorado HMA would be about 69. The post-gather numbers represent the lower limit of the AML range.

Under this alternative, all mares gathered and then selected for release back to the HMA would be treated with a two-year application of PZP prior to their release. The mares treated would equal approximately 25-**35**% (25 horses in the White Mountain HMA and 16 horses in the Little Colorado HMA) of post-gather mare population. Each of these mares, if pregnant, would be expected to foal normally during the 2008 foaling season. The treatment of PZP would be expected to slow population growth starting in 2008 and be effective for 2-3 years following treatment. Under this alternative the projected wild horse population would not be expected to exceed the current upper limit of the AML range until Year 4 following the gather (about 2011). The projected growth rate used in table 5 below was derived from the population modeling located in Appendix III for year one, then adjusted by approximately 50% for the following 2 years thereafter to account for the Fertility Control Efficiency %.

Table 5. **White Mountain and Little Colorado HMAs – Projected End of Year Population Size**

	(2008) Year 1	(2009) Year 2	(2010) Year 3	(2011) Year 4	(2012) Year 5
Fertility Control Efficiency %	Normal	94%	82%	68%	Normal

White Mountain

Median Growth Rate %	20%	7.6%	10%	15%	20%
HMA Population	246	265	292	336	403

Little Colorado

Median Growth Rate %	20%	6.6%	10%	15%	20%
HMA Population	83	88	97	112	134

Impacts associated with gathering wild horses are well documented. Gathering wild horses causes direct impacts to individual animals such as stress, fear or confusion due to gather activities. These impacts may occur as a result of handling stress associated with the gather, capture, processing, and transportation of animals. The intensity of these impacts varies by individual and is indicated by behaviors ranging from nervous agitation to physical distress. Mortality to individuals from this impact is infrequent but does occur in one half to one percent of wild horses captured in a given gather. Other impacts to individual wild horses include separation of members of individual bands of wild horses and removal of animals from the population.

Indirect impacts can occur to wild horses after the initial stress event, and may include increased social displacement, or increased conflict between animals. These impacts are known to occur intermittently during wild horse gather operations. Traumatic injuries may occur, and typically involve biting and/or kicking bruises, which don't break the skin. The occurrence of spontaneous abortion events among mares following capture is very rare.

Mares treated with fertility control would be studied as part of BLM's ongoing fertility control research. For more information about BLM's fertility control research, refer to: http://www.fort.usgs.gov/WildHorsePopulations/default.asp

Mares receiving the fertility control inoculation would experience slightly increased levels of stress from additional handling while they are being inoculated and freeze branded. There would be potential additional indirect impacts to animals at the isolated injection site following the administration of the fertility control vaccine. Injection site injury associated with fertility control treatments are rare in treated mares, and may be related to experience of who is administering the fertility control. For monitoring purposes, wild horses treated with the PZP vaccine would be identified by the freeze-mark "HB" on the left hip.

4.2.1.5 Livestock

Impacts of Alternative A: Proposed Action - Remove Excess Animals (Lower Limit of AML range); Implement Two-Year Fertility Control Protocol

The proposed gather would not directly impact livestock operations within the gather area. Operations involved in removing wild horses may temporarily cause some disturbance to livestock present during the removal process. Livestock owners within the area of impact would be notified prior to the gather, enabling them to take precautions and avoid conflict with livestock.

An expected improvement in the quality and quantity of forage available is expected where excess or stray wild horses are removed. This would provide greater opportunity for improved range conditions within the related areas. Grazing in this area is also addressed in the Green River RMP.

4.2.2. Alternative B – Remove Excess Animals (Lower Limit of AML range) without Fertility Control Protocol

The direct / indirect impacts for each affected resource are presented below:

4.2.2.1 Wildlife
Impacts of Alternative B: Remove Excess Animals (Lower Limit of AML range) without Fertility Control Protocol

Under Alternative B, impacts associated with capture and removal operations are expected to be similar to the proposed action. The effects of just removing the excess animals would be of a shorter duration due to increased population growth rates without the implementation of the fertility control protocol as in the Proposed Action.

4.2.2.2 Vegetation, Soils & Weeds
Impacts of Alternative B: Remove Excess Animals (Lower Limit of AML range) without Fertility Control Protocol

Under Alternative B, the impacts associated with capture and removal operations are expected to be similar to the proposed action.

4.2.2.3 Recreation
Impacts of Alternative B: Remove Excess Animals (Lower Limit of AML range) without Fertility Control Protocol

Under Alternative B, the impacts associated with capture and removal operations are expected to be similar to the proposed action. Fewer wild horses would be available for viewing during the first year following the gather. In years 2-3 following the gather, more mares with foals would be available for viewing than with the proposed action since fertility control would not be applied.

4.2.2.4 Wild Horses
Impacts of Alternative B: Remove Excess Animals (Lower Limit of AML range) without Fertility Control Protocol

Under Alternative B, the post-gather population of wild horses for the White Mountain HMA would be about 205 and Little Colorado HMA would be about 69. The post-gather numbers represent the lower limit of the AML range.

Under this alternative, all released mares would foal normally over the next 3-4 year period. Based on a normal projected population increase (20%), wild horse numbers are expected to exceed the upper limit of the AML range in Year 3 following the gather (about 2010):

Table 6. White Mountain and Little Colorado HMAs – Projected End of Year Population Size

	(2008) Year 1	(2009) Year 2	(2010) Year 3	(2011) Year 4	(2012) Year 5
Efficiency %	Normal	Normal	Normal	Normal	Normal
Growth Rate Foaling %	20%	20%	20%	20%	20%
White Mountain HMA Population	251	291	337	391	469
Little Colorado HMA Population	90	104	134	150	180

Achieving the combined lower limit of AML for wild horses in the project area would allow for recovery of vegetation that has received moderate to heavy utilization. Additional stress to the wild horses due to the fertility control implementation would not occur since fertility control would not be applied.

4.2.2.5 Livestock

Impacts of Alternative B: Remove Excess Animals (Lower Limit of AML range) without Fertility Control Protocol

Under Alternative B, the impacts associated with capture and removal operations are expected to be similar to the proposed action.

4.2.3 Alternative C: No Action Alternative (Defer Population Control)

The direct / indirect impacts for each affected resource are presented below:

4.2.3.1 Wildlife

Impacts of Alternative C: No Action Alternative (Defer Population Control)

Wildlife would not be temporarily displaced or disturbed under the No Action Alternative. However, there would be continued competition with wild horses for limited water and forage resources. This competition would increase as wild horse numbers continued to increase annually. Wild horses are aggressive around water sources and some wildlife species may not be able to compete successfully. The continued competition for limited resources may lead to increased stress or dislocation of native wildlife species. Additionally, increased competition between wild horses and wildlife species for the new growth important for plants to make and store carbohydrates and for promoting long-term vegetation recovery, could result impact vegetation recovery and encourage non-native or invasive plants to become established. This could result in deteriorated habitat conditions and loss of individuals for native wildlife over the longer term.

Sensitive Species
Direct and Indirect Impacts - No action alternative

No direct or indirect impacts are anticipated from the No Action Alternative.

Cumulative Impacts

Unmanaged populations of wild horses would eventually exceed the carrying capacity of the HMA and adjacent areas. Competition for water and forage resources would increase between wildlife and horses and the habitat would be degraded. The cumulative affects of this alternative would be very detrimental to all wildlife species. Wildlife would be negatively affected by a reduction in the quality of their habitat caused by competition for forage, water, space and degradation of the riparian habitats.

Mitigation Measures
None required for the no action alternative.

4.2.3.2 Vegetation, Soils & Weeds
Impacts of Alternative C: No Action Alternative (Defer Population Control)

Under Alternative C, wild horse population control would not be implemented. Perennial vegetation would continue to experience seasonal-long grazing pressure by wild horses and seasonal pressure from livestock, which is not conducive to optimum plant health and vigor. Soil erosion and plant health would continue to be compromised around water locations, but elsewhere impacts would be localized and minimal. This alternative would allow wild horse populations to continue to increase within the HMAs and nearby areas. As native plant health deteriorates and more plants are lost, soil erosion increases and a long term loss of productivity occurs. There would also be increased impacts to areas outside the HMAs as horses move out in search of better forage. Impacts would be cumulative over time and would affect areas beyond the HMA. Eventually, long-term rangeland health would be jeopardized. In the absence of healthy rangelands, animal health would eventually be impacted, leading to increasing numbers of wild horses in poor body condition and at risk of starvation or death without human intervention.

Soil erosion would increase in proportion to herd size and vegetation disturbance. The shallow desert top soils can not tolerate much loss without losing productivity and thus the ability to be revegetated with native plants. Invasive non-native species could increase following increased soil disturbance and reduced native plant vigor and abundance. The greater impacts would be around water locations. Watershed health throughout the area would continue to decrease. These impacts would be cumulative over time.

This alternative would allow wild horse populations to increase within the White Mountain and Little Colorado HMAs and nearby areas as no population management would take place. Populations of wild horses might eventually stabilize at very high numbers near what is known as their food-limited ecological carrying capacity. At these levels, range conditions would probably deteriorate significantly which would affect the native species and the habitat for special status species.

Invasive non-native plant species could continue to increase and invade new areas following increased soil disturbance and reduced native plant vigor and abundance. This would lead to both a shift in plant composition towards weedy species and a loss of productivity from loss of native species and the erosion of soils. There would also be increased impacts to areas outside the HMAs as horses move out in search of better forage. Impacts would be cumulative over time and would affect areas beyond the HMA.

4.2.3.3 Recreation
Impacts of Alternative C: No Action Alternative (Defer Population Control)

Where horse numbers increased, certain kinds of opportunities associated with the horse population would increase, although the condition of the horses could decline over time, rendering them less desirable for viewing. The quality of recreational opportunities associated with the quality of the habitat, such as viewing or hunting wildlife, would

probably decline as the wild horse population increased beyond the carrying capacity of the habitat.

The quality of some recreational opportunities could decline, in the long-term. Some opportunities associated with the presence of wild horses might increase in the short term, but they could decline in the long-term due to the increasing occurrence of obviously malnourished horses. Recreationists might encounter carcasses and their scavengers more frequently when the population of horses is in decline due to insufficient feed and/or water. Thus, although the increased population of wild horses might make them easier to find, the experience might not be as desirable due to the poor condition of the horses.

Other recreation opportunities could also be detrimentally affected in the long run due to the habitat degradation caused by wild horse overpopulation. Game species might be pressured out of the area in search of essential resources. Viewers might not need to go to the HMA to view wild herds because the wild horses would be forced to expand their territories outside the current HMA boundaries in order to find the feed and water they need to survive. Once they establish themselves beyond the HMA boundaries, they would upset the balance among other species in the new habitat as they used resources required for the other species. Opportunities for viewing and hunting other wildlife could be severely reduced in the long run, both within the HMA and beyond it.

4.2.3.4 Wild Horses
Impacts of Alternative C: No Action Alternative (Defer Population Control)

Under this alternative, no wild horses would be removed at this time, nor would fertility control treatment be implemented. As a result, wild horses would not be subject to any individual direct or indirect impacts described in the Proposed Action as a result of a gather operation. Following foaling in 2008, wild horse populations would be expected to grow to about 980 wild horses in the White Mountain HMA and about 218 wild horses in the Little Colorado HMA. Projected population increases would result in minimal potential for inbreeding over the long-term, but would be expected to result in further deterioration of the range, and eventually lead to long-term impacts to both the health of the rangeland and the wild horse herds. Competition for the available forage and water resources would continue to increase as growing numbers of wild horses compete for the available forage and water resources. Lactating mares, foals, and older animals would be affected most severely. Social stress would also be expected to increase among animals as they fight to protect their position at scarce forage and water sources. Potential for injuries to all age classes of animals would be expected to increase.

Areas closest to the water would experience severe utilization and degradation. Over time, the animals would also deteriorate in condition as a result of declining forage and increasing distances traveled to and from water to find forage. Many wild horses, especially mares with foals, would be put at risk through the following summer due to a lack of forage and water, or would be expected to move outside the HMA boundaries in

search of food and water, potentially risking injury/death of animals and resulting in increasing damage to private and State lands.

4.2.3.5 Livestock
Impacts of Alternative C: No Action Alternative (Defer Population Control)

Under Alternative C, wild horse population control methods would not be implemented. This alternative would allow wild horse populations to increase within the project area and nearby non-HMA areas. Livestock would gradually be displaced by wild horses as demand for space, forage, and water increased. Displacement would be slow and indirect. As competition increased, it would become less economically favorable to utilize these areas with domestic livestock. The rangeland would be over utilized, causing a shift towards invasive species and less palatable forage. Fence maintenance costs would increase due to increased numbers of wild horses and their potential damage to existing fencing. This would have a negative economic impact on livestock producers. Range conditions throughout the area would deteriorate. These impacts would be cumulative over time.

4.3 Cumulative Impacts Analysis:

The National Environmental Policy Act (NEPA) regulations define cumulative impacts as impacts on the environment that result from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such actions (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

4.3.1 Past and Present Actions:

The Past, Present, and Reasonably Foreseeable Future Actions applicable to the assessment area are identified as the following:

Table 7

Project -- Name or Description	Status (x)		
	Past	Present	Future
Livestock grazing	x	x	x
Wild Horse Gathers	x	x	x
Mineral Exploration / Oil and gas Exploration/Abandoned mine land reclamation	x	x	x
Recreation	x	x	x
Water and Spring development (wells, development of springs, & fencing water sources)	x	x	x
Invasive weed inventory/treatments	x	x	x
Wildlife/Big Game Studies		x	x
Wild Horse issues, AML adjustments and planning	x	x	x

Any future proposed projects within the White Mountain and Little Colorado HMAs would be analyzed in an appropriate environmental document following site specific planning. Future project planning would also include public involvement.

4.3.2 Reasonably Foreseeable Action Scenario (RFAS)

All resource values listed in Table 2 (EA, page 11) have been evaluated for cumulative impacts. If there are no direct or indirect impacts to said resources, there are likewise no expected cumulative impacts. The following critical elements or other resources that were discussed in Elements of the Human Environment Present or Potentially Affected are evaluated in this section for cumulative effects:

Wildlife, Threatened and Endangered Species, Special Status Species, and Migratory Birds

Historic use by livestock, wild horse grazing, recreation, mineral exploration, mining and vegetation harvesting have likely impacted wildlife, special status species, and migratory bird habitat within the White Mountain and Little Colorado HMAs, especially near water locations. These activities result in loss of habitat and disruption of movement patterns. The current overpopulation of wild horses is also impacting wildlife habitat by increasing the competition for available forage and water. Alternatives A & B would not contribute to cumulative impacts associated with impediments to wildlife movement.

The cumulative impacts associated with implementation of Alternatives A & B would lead to overall improvement of rangeland resources and wildlife habitat. Under Alternatives A & B, wild horse populations would be managed within the AML range over the next 3-4 year period. As a result, fewer wild horses would be present and the quality and quantity of these resources would be expected to improve. When combined with past, present, and reasonably foreseeable future actions, and the identified mitigation measures, the potential for significant adverse cumulative impacts to wildlife habitat from implementation of Alternatives A & B would be negligible.

No long-term cumulative benefits to any rangeland user would be expected with implementation of the No Action Alternative. The No Action Alternative would be expected to result in continued range deterioration, and lead to long-term adverse impacts to range and riparian health. Once long-term range and riparian health is impacted, any reasonably foreseeable projects or other management actions are unlikely to improve habitat for wildlife, sensitive species, or other values.

Livestock Grazing, Vegetation and Soils

The vegetation within the White Mountain and Little Colorado HMAs has been utilized by wild horses since the project area was first settled. Domestic livestock has grazed all portions of the HMAs in the past and is expected to continue in the future. Some of the range has a history of over-utilization. Water has always been the limiting resource for wild horses within the White Mountain and Little Colorado HMAs. As a result,

vegetation and soils located near streams and springs tends to be heavily utilized and trampled. Lack of adequate water in portions of the project area has prevented wide-spread utilization by wild horses.

Implementation of Alternatives A & B would contribute to isolated areas of vegetation disturbance through the gather activities. In the long term, however, the achievement of AML in conjunction with proper grazing management and other foreseeable actions such as recreation, mineral exploration, vegetation harvesting and invasive weed treatment, would contribute to improved vegetative resources.

Implementation of Alternatives A & B would be expected to promote improvements to ecological condition. Excessive use by wild horses would not occur at riparian areas or outside the White Mountain and Little Colorado HMAs once AML is achieved and maintained. Key forage and browse species would improve in health, abundance and robustness, and would be more likely to set seed and reproduce, which in turn would contribute to improvements in rangeland health. The proposed population control and other foreseeable actions would begin to offset past negative trends in habitat modification by allowing for attainment of rangeland health standards and site-specific management objectives.

Implementation of the No Action Alternative would result in continued degradation of vegetation by wild horses. In the long term, this would cause native vegetation to be replaced by less palatable native plants or invasive species such as cheatgrass or noxious weeds. Past impacts would not be offset and downward trends would continue to occur.

Recreation

Recreational uses have occurred throughout the White Mountain and Little Colorado HMAs since the surrounding areas were first settled. Recreational uses are increasing and expanding to new areas throughout the area. As a result, the need for recreation planning has increased. Recreation planning allows land management agencies to work to balance the resource needs with the demand for a variety of recreation uses which the public can enjoy within the White Mountain and Little Colorado HMAs.

Implementation of Alternatives A & B would allow for continued viewing of wild horses. The aesthetic values provided in association with a variety of recreational opportunities would also be enhanced as the quantity and quality of vegetation within the area improves.

Implementation of the No Action Alternative would allow for recreational opportunities as they currently exist. Viewing opportunities of wild horses would be greater under this alternative; however, heavy utilization of vegetation would continue to occur, impacting the aesthetic values associated with various recreation opportunities. As animal health declines or animals leave the HMAs in search of food and water, some recreational opportunities would be less enjoyable.

Wild horses

Numerous gathers of wild horses have occurred throughout the White Mountain and Little Colorado HMAs in the past. The most recent gather of wild horses was in November 2003; this gather was necessary to bring the existing wild horse population in line with population goals. Visual observations and data collected during past gather operations within the White Mountain and Little Colorado HMAs indicate the current wild horse population has a normal age and sex ratio. Fertility control has not been implemented in the past. Genetics testing has been completed in the White Mountain HMA and the results indicate that the existing wild horse population is in good genetic health with no risks of inbreeding. Genetic samples may be gathered for future analysis.

Past activities which may have affected wild horses within the White Mountain and Little Colorado HMAs include recreational uses and livestock grazing. These activities can impact wild horses by reducing the quantity and quality of vegetation resources, as well as water quality and quantity. Past mineral and oil & gas activities and other small projects would have had temporary and isolated impacts to the wild horses.

Future activities which could occur include construction of water developments and spring exclosures, recreation and mineral and oil & gas exploration activities. The future may also involve further adjustments to the AML (increases or decreases), fertility control research and future gathers to achieve or maintain AML throughout the White Mountain and Little Colorado HMAs.

All other foreseeable activities such as invasive weed treatment, vegetation harvesting etc. would likely result in negligible impacts to wild horses in the long term; this is because the areas of disturbance would be small compared to the overall size of the White Mountain and Little Colorado HMAs. An overall lower population and density of wild horses across the landscape would allow for more rapid recovery of native vegetation that is currently degraded; it would also reduce or eliminate the potential for further degradation. Moreover, by managing wild horse populations within the AML range, the expected improvement in rangeland health would be expected to lead to improved body condition, healthier foals, and ensure herd sustainability through drought years.

Implementation of Alternatives A & B would benefit wild horses in the long term because there would be improved quality and quantity of resources (forage, water, cover, and space). Future offspring would also benefit from these improved resources; they would be expected to be larger, healthier, and better able to achieve their genetic potential. The application of fertility control and removals to the lower limit of the AML in the Proposed Action would slow population growth over the next 2-3 year period thereby further reducing the impact to the vegetation over a longer period of time. Under Alternative B, the White Mountain and Little Colorado HMAs would be gathered to the lower limit of the AML and the population would be allowed to grow at normal rates thus the vegetation recovery would be expected to be slower than that of the Proposed Action

because grazing pressure would increase at a faster rate following the removal of excess horses.

Under Alternatives A & B, continued monitoring and data collection would be needed assess whether healthy and self-sustaining wild horse herds are being maintained on the HMAs over the long-term. Monitoring of the project area will continue for wild horses as well as vegetation and water resources. Further evaluation is needed to determine if the HMAs are meeting the standards for rangeland health.

Under the No Action Alternative, there would be no long-term cumulative benefits to any watershed user. Future generations of wild horses would experience continued watershed deterioration and loss of water sources and riparian habitat. At the current rate of annual population growth, the projected wild horse population within 5 years would exceed 1,440 animals in the White Mountain HMA and about 317 wild horses in the Little Colorado HMA. Left unchecked, irreparable damage to the habitat could result in the need to permanently remove all wild horses from the White Mountain and Little Colorado HMAs.

Summary of Past, Present, and Reasonably Foreseeable Future Actions

The area affected by Alternative A, and Alternative B is the area in and around the White Mountain and Little Colorado HMAs. Please refer to Figure 1 which displays a map of the affected area. Past, proposed and reasonably foreseeable actions that may impact the White Mountain and Little Colorado wild horse herds could include past and future wild horse gathers and the initial application of fertility control. Over time, as wild horse population levels are maintained within the AML range, a thriving natural ecological balance would also be achieved and maintained.

Other reasonably foreseeable actions within the affected area may include mining, oil & gas exploration, recreational activities, livestock grazing, range projects, and vegetation monitoring. The BLM would continue to conduct the necessary monitoring to periodically evaluate the effects of grazing use by wild horses, livestock, and wildlife, and determine if progress is being made in the attainment of Standards for Rangeland Health. Monitoring would be in accordance with BLM policy as outlined in the *Wyoming Rangeland Monitoring Handbook* and other BLM technical references. However, cumulative beneficial effects from the Proposed Action and Alternative B are expected and would include continued improvement of the range condition and riparian-wetland condition, which in turn positively impact wildlife, wild horse populations, and forage quality and quantity would be maintained and improved. Water quality and riparian habitat would also continually improve.

Under the No Action Alternative, wild horse populations would continue to increase and cause impacts to the wildlife habitat from the periodic excessive use by wild horses at riparian areas and in rangeland vegetation. Direct cumulative impacts of the No Action Alternative, coupled with the impacts from past, present, and reasonably foreseeable actions, would preclude any improvement to the health of vegetative communities and

the ecological condition of the range as a whole. As a result, the No Action Alternative coupled with many of the past, present, and reasonably foreseeable actions would hinder success in attaining RMP objectives and Standards for Rangeland Health.

4.3.3 Mitigation Measures and Suggested Monitoring

The White Mountain and Little Colorado HMAs would continue to be monitored post-gather. Data would be collected which would assist BLM in determining whether existing AMLs are appropriate or need future adjustment (either up or down). Data collected would include observations of animal health and condition, climate (precipitation), grazing utilization, animal distribution, population census, range condition and trend, among other items.

Proven mitigation and monitoring are incorporated into the proposed action through standard operating procedures, which have been developed over time. These SOPs (Appendix I and II) represent the "best methods" for reducing impacts associated with gathering, handling, transporting, collecting herd data and applying fertility control.

4.3.4 Cumulative Impacts:

Cumulative impacts result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such action. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

5.0 CONSULTATION AND COORDINATION:

5.1 Introduction:

The issue identification section of Chapter 1 identifies those issues analyzed in detail in Chapter 4. Table 2 provides the rationale for issues that were considered but not analyzed further. The issues were identified through the public and agency involvement process described in sections 5.2 and 5.3 below.

5.2 Summary of Public Participation, Persons, Groups, and Agencies Consulted:

Public comments on the various components of wild horse management on public lands in the White Mountain and Little Colorado HMAs have been received throughout the last several years. In addition, 18 individual comments were received by August 20, 2007, during the Scoping Notice review period. These comments represented a wide range of views of opinion and interpretation of selected pieces of data. All of these varying viewpoints have been considered in the development of the EA, and current practices employed to carry out the intent of the Wild Horse and Burro Act of 1971 on public lands under the jurisdiction of the Rock Springs Field Office.

A public hearing is held annually on a state-wide basis regarding the use of helicopters and motorized vehicles to capture wild horses or burros. During this meeting, the public

is given the opportunity to present new information and to voice any concerns regarding the use of these methods to capture wild horses or burros. The Rock Springs Field Office held the annual meeting on August 1, 2007; no public attended the hearing.

References

□ Field Trial Plan Wild Horse Fertility Control, October 2003, Francis Singer et al.

5.3 List of Preparers:

NAME:	**DISCIPLINE / OFFICE:**
Bernie Weynand	Assistant Field Manager / RSFO
Jay D'Ewart	Wild Horses / RSFO
Lorraine Keith	Wildlife & Special Status Animals/ RSFO
Colleen Sievers	Cultural Resources / RSFO
Jim Glennon	Botanist & Special Status Plants/RSFO
John Henderson	Fisheries Biologist / RSFO
Jo Foster	Recreation Planner / RSFO
Dennis Doncaster	Hydrologist / RSFO
Jonathan Sheeler	Range
Cherette Mastny	Range
Alan Shepherd	State Lead Wild Horse & Burro Specialist / WSO

APPENDICES:
APPENDIX I

Standard Operating Procedures for Wild Horse Gathers

Gathers would be conducted by utilizing contractors from the Wild Horse Gathers-Western States Contract, or BLM personnel. The following procedures for gathering and handling wild horses would apply whether a contractor or BLM personnel conduct a gather. For helicopter gathers conducted by BLM personnel, gather operations will be conducted in conformance with the *Wild Horse Aviation Management Handbook* (March 2000).

Prior to any gathering operation, the BLM will provide for a pre-capture evaluation of existing conditions in the gather area(s). The evaluation will include animal conditions, prevailing temperatures, drought conditions, soil conditions, road conditions, and a topographic map with wilderness boundaries, the location of fences, other physical barriers, and acceptable trap locations in relation to animal distribution. The evaluation will determine whether the proposed activities will necessitate the presence of a veterinarian during operations. If it is determined that capture operations necessitate the services of a veterinarian, one would be obtained before the capture would proceed. The contractor will be apprised of all conditions and will be given instructions regarding the capture and handling of animals to ensure their health and welfare is protected.

Trap sites and temporary holding sites will be located to reduce the likelihood of undue injury and stress to the animals, and to minimize potential damage to the natural resources of the area. These sites would be located on or near existing roads.

The primary capture methods used in the performance of gather operations include:

1. Helicopter Drive Trapping. This capture method involves utilizing a helicopter to herd wild horses into a temporary trap.
2. Helicopter Assisted Roping. This capture method involves utilizing a helicopter to herd wild horses or burros to ropers.
3. Bait Trapping. This capture method involves utilizing bait (water or feed) to lure wild horses into a temporary trap.

The following procedures and stipulations will be followed to ensure the welfare, safety and humane treatment of wild horses in accordance with the provisions of 43 CFR 4700.

A. Capture Methods used in the Performance of Gather Contract Operations

1. The primary concern of the contractor is the safe and humane handling of all animals captured. All capture attempts shall incorporate the following:

   All trap and holding facilities locations must be approved by the Contracting Officer's Representative (COR) and/or the Project Inspector (PI) prior to construction. The Contractor may also be required to change or move trap

locations as determined by the COR/PI. All traps and holding facilities not located on public land must have prior written approval of the landowner.

2. The rate of movement and distance the animals travel shall not exceed limitations set by the COR/PI who will consider terrain, physical barriers, weather, condition of the animals and other factors.

3. All traps, wings, and holding facilities shall be constructed, maintained and operated to handle the animals in a safe and humane manner and be in accordance with the following:

    a. Traps and holding facilities shall be constructed of portable panels, the top of which shall not be less than 72 inches high for horses and 60 inches for burros, and the bottom rail of which shall not be more than 12 inches from ground level. All traps and holding facilities shall be oval or round in design.

    b. All loading chute sides shall be a minimum of 6 feet high and shall be fully covered, plywood, metal without holes.

    c. All runways shall be a minimum of 30 feet long and a minimum of 6 feet high for horses, and 5 feet high for burros, and shall be covered with plywood, burlap, plastic snow fence or like material a minimum of 1 foot to 5 feet above ground level for burros and 1 foot to 6 feet for horses. The location of the government furnished portable fly chute to restrain, age, or provide additional care for the animals shall be placed in the runway in a manner as instructed by or in concurrence with the COR/PI.

    d. All crowding pens including the gates leading to the runways shall be covered with a material which prevents the animals from seeing out (plywood, burlap, plastic snow fence, etc.) and shall be covered a minimum of 1 foot to 5 feet above ground level for burros and 2 feet to 6 feet for horses

    e. All pens and runways used for the movement and handling of animals shall be connected with hinged self-locking gates.

4. No modification of existing fences will be made without authorization from the COR/PI. The Contractor shall be responsible for restoration of any fence modification which he has made.

5. When dust conditions occur within or adjacent to the trap or holding facility, the Contractor shall be required to wet down the ground with water.

6. Alternate pens, within the holding facility shall be furnished by the Contractor to separate mares or jennies with small foals, sick and injured animals, and estrays

from the other animals. Animals shall be sorted as to age, number, size, temperament, sex, and condition when in the holding facility so as to minimize, to the extent possible, injury due to fighting and trampling. Under normal conditions, the government will require that animals be restrained for the purpose of determining an animal's age, sex, or other necessary procedures. In these instances, a portable restraining chute may be necessary and will be provided by the government. Alternate pens shall be furnished by the Contractor to hold animals if the specific gathering requires that animals be released back into the capture area(s). In areas requiring one or more satellite traps, and where a centralized holding facility is utilized, the contractor may be required to provide additional holding pens to segregate animals transported from remote locations so they may be returned to their traditional ranges. Either segregation or temporary marking and later segregation will be at the discretion of the COR.

7. The Contractor shall provide animals held in the traps and/or holding facilities with a continuous supply of fresh clean water at a minimum rate of 10 gallons per animal per day. Animals held for 10 hours or more in the traps or holding facilities shall be provided good quality hay at the rate of not less than two pounds of hay per 100 pounds of estimated body weight per day. An animal that is held at a temporary holding facility after 5:00 p.m. and on through the night, is defined as a horse/burro feed day. An animal that is held for only a portion of a day and is shipped or released does not constitute a feed day.

8. It is the responsibility of the Contractor to provide security to prevent loss, injury or death of captured animals until delivery to final destination.

9. The Contractor shall restrain sick or injured animals if treatment is necessary. The COR/PI will determine if injured animals must be destroyed and provide for destruction of such animals. The Contractor may be required to humanely euthanize animals in the field and to dispose of the carcasses as directed by the COR/PI.

10. Animals shall be transported to final destination from temporary holding facilities within 24 hours after capture unless prior approval is granted by the COR/PI for unusual circumstances. Animals to be released back into the HMA following gather operations may be held up to 21 days or as directed by the COR/PI. Animals shall not be held in traps and/or temporary holding facilities on days when there is no work being conducted except as specified by the COR/PI. The Contractor shall schedule shipments of animals to arrive at final destination between 7:00 a.m. and 4:00 p.m. No shipments shall be scheduled to arrive at final destination on Sunday and Federal holidays, unless prior approval has been obtained by the COR. Animals shall not be allowed to remain standing on trucks while not in transport for a combined period of greater than three (3) hours. Animals that are to be released back into the capture area may need to be transported back to the original trap site. This determination will be at the discretion of the COR.

B. Capture Methods That May Be Used in the Performance of a Gather

1. Capture attempts may be accomplished by utilizing bait (feed or water) to lure animals into a temporary trap. If the contractor selects this method the following applies:

    a. Finger gates shall not be constructed of materials such as "T" posts, sharpened willows, etc., that may be injurious to animals.

    b. All trigger and/or trip gate devices must be approved by the COR/PI prior to capture of animals.

    c. Traps shall be checked a minimum of once every 10 hours.

2. Capture attempts may be accomplished by utilizing a helicopter to drive animals into a temporary trap. If the contractor selects this method the following applies:

    a. A minimum of two saddle-horses shall be immediately available at the trap site to accomplish roping if necessary. Roping shall be done as determined by the COR/PI. Under no circumstances shall animals be tied down for more than one hour.

    b. The contractor shall assure that foals shall not be left behind, and orphaned.

3. Capture attempts may be accomplished by utilizing a helicopter to drive animals to ropers. If the contractor with the approval of the COR/PI selects this method the following applies:

    a. Under no circumstances shall animals be tied down for more than one hour.

    b. The contractor shall assure that foals shall not be left behind, or orphaned.

    c. The rate of movement and distance the animals travel shall not exceed limitations set by the COR/PI who will consider terrain, physical barriers, weather, condition of the animals and other factors.

C. Use of Motorized Equipment

1. All motorized equipment employed in the transportation of captured animals shall be in compliance with appropriate State and Federal laws and regulations applicable to the humane transportation of animals. The Contractor shall provide the COR/PI with a current safety inspection (less than one year old) for all motorized equipment and tractor-trailers used to transport animals to final

destination.

2. All motorized equipment, tractor-trailers, and stock trailers shall be in good repair, of adequate rated capacity, and operated so as to ensure that captured animals are transported without undue risk or injury.

3. Only tractor-trailers or stock trailers with a covered top shall be allowed for transporting animals from trap site(s) to temporary holding facilities, and from temporary holding facilities to final destination(s). Sides or stock racks of all trailers used for transporting animals shall be a minimum height of 6 feet 6 inches from the floor. Single deck tractor-trailers 40 feet or longer shall have two (2) partition gates providing three (3) compartments within the trailer to separate animals. Tractor-trailers less than 40 feet shall have at least one partition gate providing two (2) compartments within the trailer to separate the animals. Compartments in all tractor-trailers shall be of equal size plus or minus 10 percent. Each partition shall be a minimum of 6 feet high and shall have a minimum 5 foot wide swinging gate. The use of double deck tractor-trailers is unacceptable and shall not be allowed.

4. All tractor-trailers used to transport animals to final destination(s) shall be equipped with at least one (1) door at the rear end of the trailer which is capable of sliding either horizontally or vertically. The rear door(s) of tractor-trailers and stock trailers must be capable of opening the full width of the trailer. Panels facing the inside of all trailers must be free of sharp edges or holes that could cause injury to the animals. The material facing the inside of all trailers must be strong enough so that the animals cannot push their hooves through the side. Final approval of tractor-trailers and stock trailers used to transport animals shall be held by the COR/PI.

5. Floors of tractor-trailers, stock trailers and loading chutes shall be covered and maintained with wood shavings to prevent the animals from slipping.

6. Animals to be loaded and transported in any trailer shall be as directed by the COR/PI and may include limitations on numbers according to age, size, sex, temperament and animal condition. The following minimum square feet per animal shall be allowed in all trailers:

   11 square feet per adult horse (1.4 linear foot in an 8 foot wide trailer);
   8 square feet per adult burro (1.0 linear foot in an 8 foot wide trailer);
   6 square feet per horse foal (.75 linear foot in an 8 foot wide trailer);
   4 square feet per burro foal (.50 linear feet in an 8 foot wide trailer).

7. The COR/PI shall consider the condition and size of the animals, weather conditions, distance to be transported, or other factors when planning for the movement of captured animals. The COR/PI shall provide for any brand and/or inspection services required for the captured animals.

8. If the COR/PI determines that dust conditions are such that the animals could be endangered during transportation, the Contractor will be instructed to adjust speed.

D. Safety and Communications

1. The Contractor shall have the means to communicate with the COR/PI and all contractor personnel engaged in the capture of wild horses utilizing a VHF/FM Transceiver or VHF/FM portable Two-Way radio. If communications are ineffective the government will take steps necessary to protect the welfare of the animals.

    a. The proper operation, service and maintenance of all contractor furnished property is the responsibility of the Contractor. The BLM reserves the right to remove from service any contractor personnel or contractor furnished equipment which, in the opinion of the contracting officer or COR/PI violate contract rules, are unsafe or otherwise unsatisfactory. In this event, the Contractor will be notified in writing to furnish replacement personnel or equipment within 48 hours of notification. All such replacements must be approved in advance of operation by the Contracting Officer or his/her representative.

    b. The Contractor shall obtain the necessary FCC licenses for the radio system

    c. All accidents occurring during the performance of any task order shall be immediately reported to the COR/PI.

2. Should the contractor choose to utilize a helicopter the following will apply:

    a. The Contractor must operate in compliance with Federal Aviation Regulations, Part 91. Pilots provided by the Contractor shall comply with the Contractor's Federal Aviation Certificates, applicable regulations of the State in which the gather is located.

    b. Fueling operations shall not take place within 1,000 feet of animals.

G. Site Clearances

Personnel working at gather sites will be advised of the illegality of collecting artifacts.

Prior to setting up a trap or temporary holding facility, BLM will conduct all necessary clearances (archaeological, T&E, etc). All proposed site(s) must be inspected by a government archaeologist. Once archaeological clearance has been obtained, the trap or temporary holding facility may be set up. Said clearance shall be arranged for by the COR, PI, or other BLM employees.

Gather sites and temporary holding facilities would not be constructed on wetlands or riparian zones.

H. Animal Characteristics and Behavior

Releases of wild horses would be near available water. If the area is new to them, a short-term adjustment period may be required while the wild horses become familiar with the new area.

I. Public Participation

Opportunities for public viewing (i.e. media, interested public) of gather operations will be made available to the extent possible; however, the primary consideration will be to protect the health and welfare of the animals being gathered. The public must adhere to guidance from the on site BLM representative. It is BLM policy that the public will not be allowed to come into direct contact with wild horses or burros being held in BLM facilities. Only authorized BLM personnel or contractors may enter the corrals or directly handle the animals. The general public may not enter the corrals or directly handle the animals at anytime or for any reason during BLM operations.

J. Responsibility and Lines of Communication

Rock Springs Field Office - Contracting Officer's Representative/Project Inspector

Jay D'Ewart

Wyoming State Office - Contracting Officer's Representative/Project Inspector

Alan Shepherd

The Contracting Officer's Representatives (CORs) and the project inspectors (PIs) have the direct responsibility to ensure the Contractor's compliance with the contract stipulations. The Rock Springs Assistant Field Managers for Resources and Rock Springs Field Managers will take an active role to ensure the appropriate lines of communication are established between the field, Field Office, State Office, National Program Office, and Rock Springs & Canon City Corral offices. All employees involved in the gathering operations will keep the best interests of the animals at the forefront at all times.

All publicity, formal public contact and inquiries will be handled through the Assistant Field Managers for Renewable Resources. These individual will be the primary contact and will coordinate the contractor with the BLM Corrals to ensure animals are being transported from the capture site in a safe and humane manner and are arriving in good condition.

The contract specifications require humane treatment and care of the animals during removal operations. These specifications are designed to minimize the risk of injury and death during and after capture of the animals. The specifications will be vigorously enforced.

Should the Contractor show negligence and/or not perform according to contract stipulations, he will be issued written instructions, stop work orders, or defaulted.

APPENDIX II

Standard Operating Procedures for Fertility Control Treatment

The following management and monitoring requirements are part of the Proposed Action:

- PZP vaccine would be administered by trained BLM personnel.
- The fertility control drug is administered with two separate injections: (1) a liquid dose of PZP is administered using an 18 gauge needle primarily by hand injection; (2) the pellets are preloaded into a 14 gauge needle. These are loaded on the end of a trocar (dry syringe with a metal rod) which is loaded into the jabstick which then pushes the pellets into the breeding mares being returned to the range. The pellets and liquid are designed to release the PZP over time similar to a time release cold capsule.
- Delivery of the vaccine would be as an intramuscular injection while the mares are restrained in a working chute. 0.5 cubic centimeters (cc) of the PZP vaccine would be emulsified with 0.5 cc of adjuvant (a compound that stimulates antibody production) and loaded into the delivery system. The pellets would be loaded into the jabstick for the second injection. With each injection, the liquid and pellets would be propelled into the left hind quarters of the mare in the area prepared for the identification freeze-mark.
- All treated mares would be freeze-marked on the hip **with a "HB" brand** to enable researchers to positively identify the animals during the data collection phase.
- At a minimum, monitoring of reproductive rates using helicopter flyovers will be conducted in years 2 through 4 by checking for presence/absence of foals. The flight scheduled for year 4 will also assist in determining the percentage of mares that have returned to fertility. In addition, field monitoring will be routinely conducted as part of other regular ground-based monitoring activities.
- A field data sheet will be used by the field applicators to record all the pertinent data relating to identification of the mare (including a photograph when possible), date of treatment, type of treatment (1 or 2 year vaccine, adjuvant used) and HMA, etc. The original form with the data sheets will be forwarded to the authorized officer at NPO (Reno, Nevada). A copy of the form and data sheets and any photos taken will be maintained at the field office.
- A tracking system will be maintained by NPO detailing the quantity of PZP issued, the quantity used, and disposition of any unused PZP, the number of treated mares by HMA, field office, and state along with the freeze-mark applied by HMA.
- The field office will assure that treated mares do not enter the adoption market for three years following treatment. In the rare instance, due to unforeseen circumstance, treated mare(s) are removed from an HMA before three years has lapsed, they will be maintained in either a BLM facility or a BLM-contracted long term holding facility until expiration of the three year holding period. In the event it is necessary to remove treated mares, their removal and disposition will be coordinated through NPO. After expiration of the three year holding period, the animal may be placed in the adoption program or sent to a long-term holding facility.

APPENDIX III
Results of WinEquus Population Modeling

Population modeling was completed for the proposed action and the alternatives. One hundred trials were ran, simulating population growth and herd demographics to determine the projected herd structure for the next four years, or prior to the next gather. The computer program used simulates the population dynamics of wild horses. It was written by Dr. Stephen H. Jenkins, Department of Biology, University of Nevada, Reno, under a contract from the National Wild Horse and Burro Program of the Bureau of Land Management and is designed for use in comparing various management strategies for wild horses.

To date, one herd has been studied using the 2-year PZP vaccine. The Clan Alpine study, in Nevada, was started in January 2000 with the treatment of 96 mares. The test resulted in fertility rates in treated mares of 6% year one, 18% year two and 32% year three. This data must be compared to normal fertility rates in untreated mares of 50/60% in most populations. The Clan Alpine fertility rate in untreated mares collected in September of each year by direct observation averaged 51% over the course of the study.

Interpretation of the Model

The estimated population of 681 wild horses in the White Mountain HMA and 1**8**2 wild horses in the Little Colorado HMA, based on a March 2007 census, was used in the population modeling. Year one is the baseline starting point for the model, and reflects wild horse numbers immediately after a gather action, or the lack of action in the case of Alternative III. In this population modeling, year one would be 2008. Year two would be exactly one year in time from the original action, and so forth for years three, four, and five. Consequently, at year five in the model, exactly four years in time would have passed. In this model, year five is 2012. This is reflected in the Population Size Modeling Table by "Population sizes in 5 years" and in the Growth Rate Modeling Table by "Average growth rate in 4 years". Growth rate is averaged over four years in time, while the population is predicted out the same four years to the end point of year five. The Full Modeling Summaries contain tables and graphs directly from the modeling program.

Population Modeling Comparison For the Alternatives

This table compares the projected population growth for the proposed action and the alternatives at the end of the four-year simulation. The population averages are from the median trial.

Modeling Statistic White Mountain HMA	**Proposed Action Alternative A**	**Alternative B**	**Alternative C**
Population in Year One	205	205	817
Median Growth Rate	7.6	17.1	15.8
Average Population	444	523	1,226
Lowest Average Population	360	410	896
Highest Average Population	590	657	1,536

Modeling Statistic Little Colorado HMA	**Proposed Action Alternative A**	**Alternative B**	**Alternative C**
Population in Year One	69	69	182
Median Growth Rate	6.6	16.4	14.4
Average Population	110	130	265
Lowest Average Population	78	81	165
Highest Average Population	147	156	357

Full Modeling Summaries:

The parameters for the population modeling were:

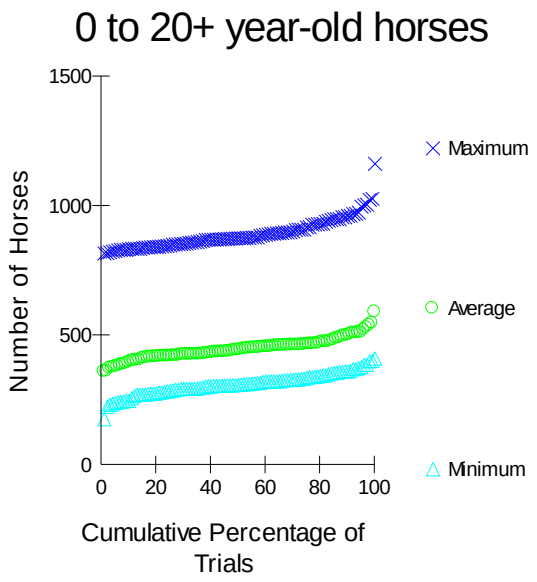
1. gather when population exceeds 300 animals in the White Mountain HMA and 100 in the Little Colorado HMA
2. foals are not included in AML
3. percent to gather 100
4. four years between gathers
5. number of trials 100
6. number of years 4
7. initial calendar year 2007
8. initial population size 817 in the White Mountain HMA and 182 in the Little Colorado HMA.
9. population size after gather 205 in the White Mountain HMA and 69 in the Little Colorado HMA.
10. implement selective removal criteria
11. fertility control Yes or NO

Alternative A: Removal to 205 with Fertility Control in the White Mountain HMA.
The parameters for the population modeling were:

1-10. same as parameters listed above.
11. Yes, treat all mares released with fertility control.

White Mountain HMA

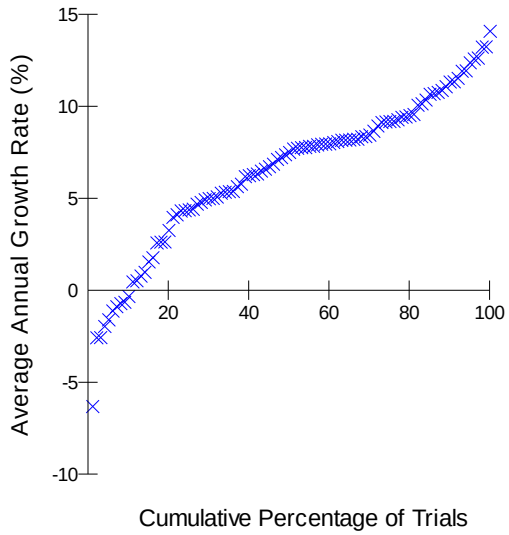
Population Size Modeling Graph and Table



	Population Sizes in 5 Years*		
	Minimum	Average	Maximum
Lowest Trial	178	360	818
10th Percentile	254	398	836
25th Percentile	287	420	850
Median Trial	310	444	877
75th Percentile	338	466	920
90th Percentile	363	502	964
Highest Trial	412	590	1164

* 0 to 20+ year-old horses

Growth Rate Modeling Graph and Table



Average Growth Rate in 4 Years

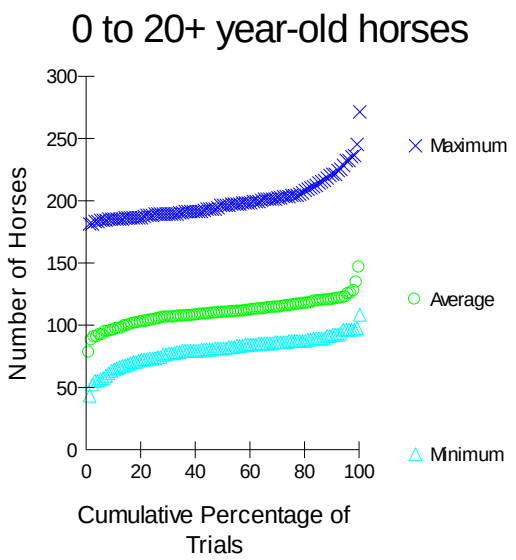
Lowest Trial	-6.3
10th Percentile	0.1
25th Percentile	4.4
Median Trial	7.6
75th Percentile	9.2
90th Percentile	11.4
Highest Trial	14.1

Alternative A: Removal to 69 with Fertility Control in the Little Colorado HMA.
The parameters for the population modeling were:

1-11. same as parameters listed above.
11. Yes, treat all mares released with fertility control.

Little Colorado HMA

Population Size Modeling Graph and Table

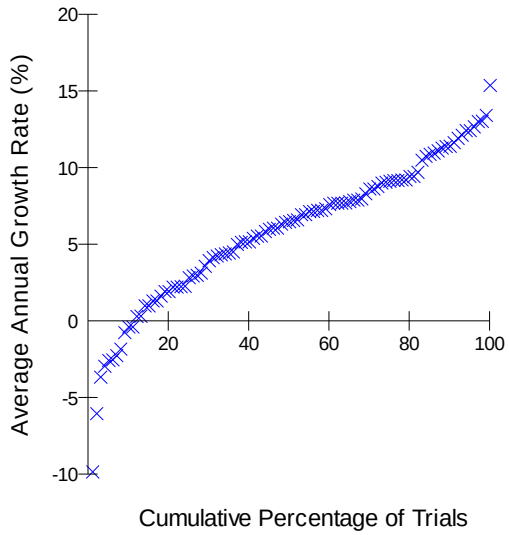


Population Sizes in 5 Years*

	Minimum	Average	Maximum
Lowest Trial	44	78	182
10th Percentile	66	97	186
25th Percentile	74	105	190
Median Trial	82	110	197
75th Percentile	88	116	205
90th Percentile	93	121	222
Highest Trial	109	147	272

* 0 to 20+ year-old horses

Growth Rate Modeling Graph and Table



Average Growth Rate in 4 Years	
Lowest Trial	-9.8
10th Percentile	-0.3
25th Percentile	2.9
Median Trial	6.6
75th Percentile	9.2
90th Percentile	11.6
Highest Trial	15.4

Alternative B: Removal to 205 without Fertility Control in the White Mountain HMA and Removal to 69 without Fertility Control in the Little Colorado HMA.
The parameters for the population modeling were:

1-10 same as parameters listed above.

11. No, do not treat all mares released with fertility control.

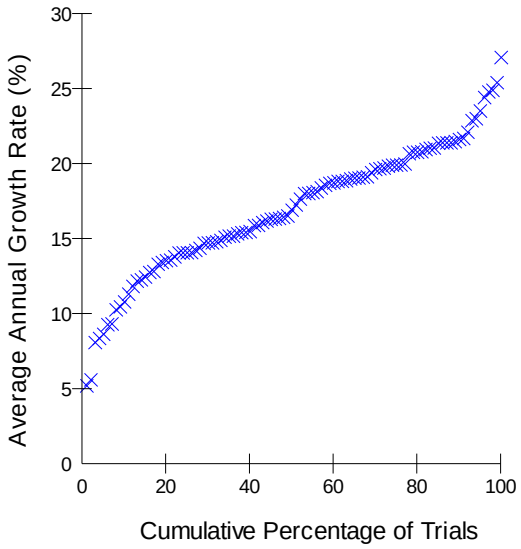
White Mountain HMA

Population Size Modeling Graph and Table

	Population Sizes in 5 Years*		
	Minimum	Average	Maximum
Lowest Trial	240	410	822
10th Percentile	302	472	836
25th Percentile	324	492	848
Median Trial	350	523	886
75th Percentile	370	564	945
90th Percentile	386	594	982
Highest Trial	432	657	1084

* 0 to 20+ year-old horses

Growth Rate Modeling Graph and Table



Average Growth Rate in 4 Years

Lowest Trial	5.2
10th Percentile	11.1
25th Percentile	14.1
Median Trial	17.1
75th Percentile	20.0
90th Percentile	21.7
Highest Trial	27.1

Little Colorado HMA

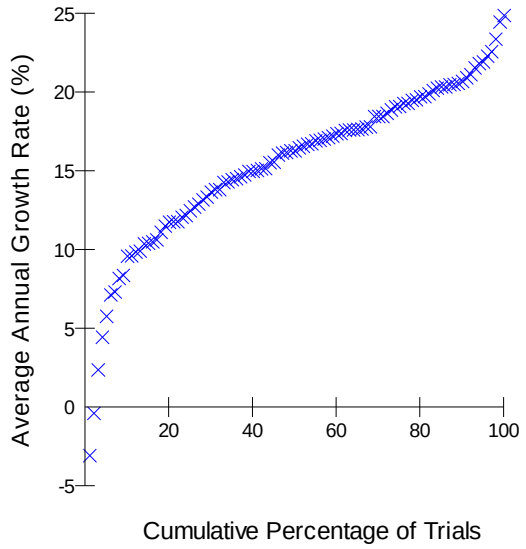
Population Size Modeling Graph and Table

Population Sizes in 5 Years*

	Minimum	Average	Maximum
Lowest Trial	43	81	182
10th Percentile	76	114	188
25th Percentile	83	122	191
Median Trial	89	130	200
75th Percentile	94	136	213
90th Percentile	98	141	221
Highest Trial	112	156	281

* 0 to 20+ year-old horses

Growth Rate Modeling Graph and Table



Average Growth Rate in 4 Years

Lowest Trial	-3.0
10th Percentile	9.6
25th Percentile	12.6
Median Trial	16.4
75th Percentile	19.2
90th Percentile	20.8
Highest Trial	24.9

Alternative C: No Action Alternative

The parameters for the population modeling were:

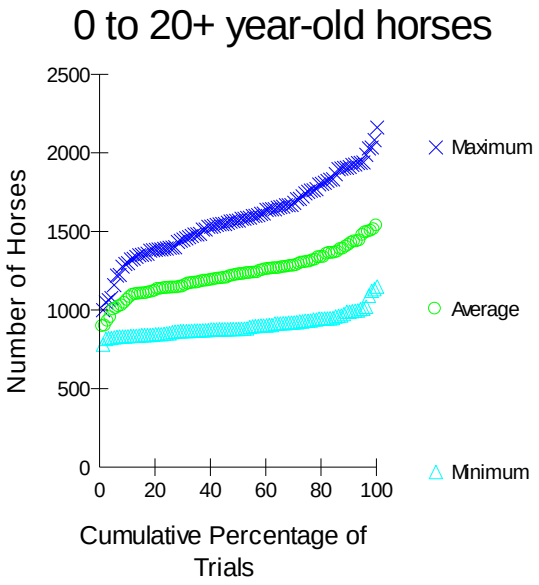
1. do not gather
2. foals are not included in AML
3. percent to gather 0

4-8. same as in Alternatives A & B

9. No, do not treat all mares released with fertility control.

White Mountain HMA

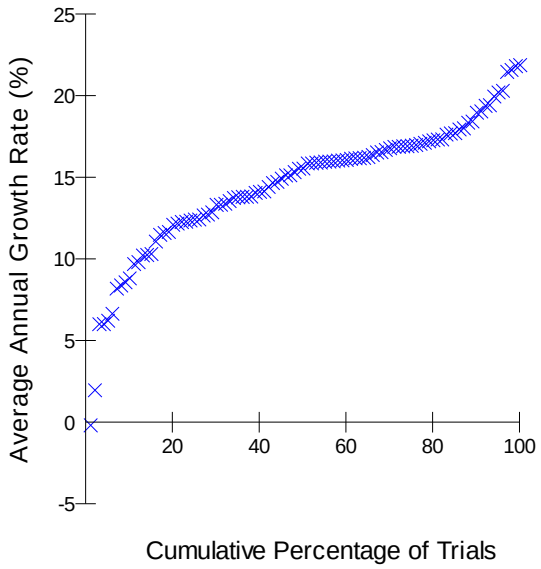
Population Size Modeling Graph and Table



	Population Sizes in 5 Years*		
	Minimum	Average	Maximum
Lowest Trial	785	896	1005
10th Percentile	839	1072	1316
25th Percentile	860	1140	1402
Median Trial	884	1226	1581
75th Percentile	938	1306	1762
90th Percentile	996	1419	1922
Highest Trial	1154	1536	2167

* 0 to 20+ year-old horses

Growth Rate Modeling Graph and Table

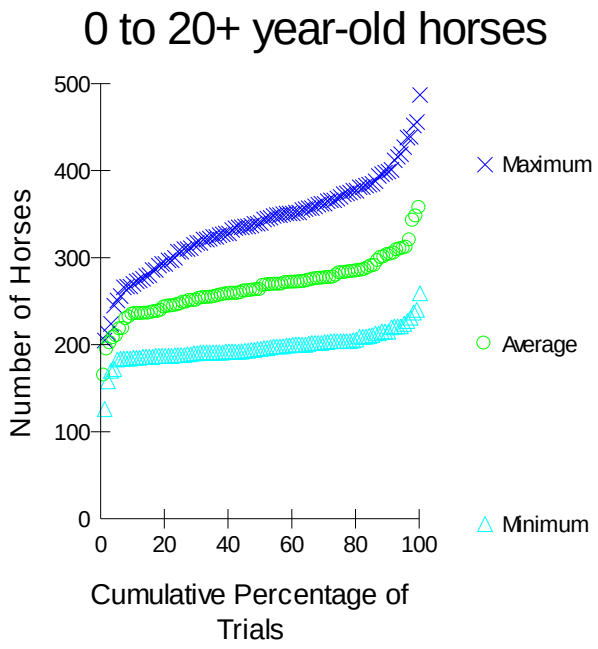


Average Growth Rate in 4 Years

Lowest Trial	-0.1
10th Percentile	9.3
25th Percentile	12.5
Median Trial	15.8
75th Percentile	17.0
90th Percentile	19.1
Highest Trial	21.9

Little Colorado HMA

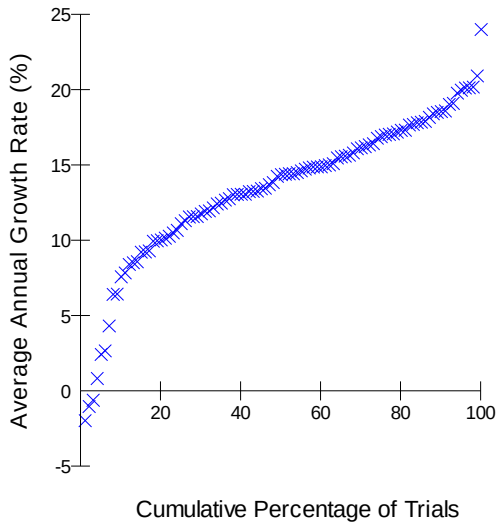
Population Size Modeling Graph and Table



	Population Sizes in 5 Years*		
	Minimum	Average	Maximum
Lowest Trial	127	165	206
10th Percentile	186	235	272
25th Percentile	189	247	310
Median Trial	196	265	343
75th Percentile	205	282	372
90th Percentile	218	303	401
Highest Trial	260	357	488

* 0 to 20+ year-old horses

Growth Rate Modeling Graph and Table



Average Growth Rate in 4 Years	
Lowest Trial	-1.9
10th Percentile	7.8
25th Percentile	11.3
Median Trial	14.4
75th Percentile	17.0
90th Percentile	18.6
Highest Trial	24.0

APPENDIX IV

Livestock Grazing Status within the White Mountain and Little Colorado HMAs

White Mountain Allotments					
		Acres	**AUMs**	**Kind of Livestock**	**Season of Use**
Rock Springs Approximately ¼ of the allotment is within the White Mountain HMA.	Public Land	956682	105584	Cattle/Sheep/ Horses-Outside of HMA	1/1-12/31
	Other Fed.	98795	5015		
	State	20782	1182		
	Private	984803	68453		
		2061062	180234		
Highway-Gasson	Public Land	82201	4319	Cattle/Sheep	5/1-1/31
	Other Fed.	14113	762		
	State	2000	106		
	Private	77	5		
		98391	5192		
Little Colorado Allotments					
Lombard	Public Land	21112	1299	Cattle/Sheep	5/1-1/31
	Other Fed.	73150	4233		
	State	540	33		
	Private	0	0		
		94802	5565		
Big Sandy	Public Land	59140	2236	Cattle/Sheep	5/1-1/31
	Other Fed.	1733	68		
	State	955	48		
	Private	48	3		
		61876	2355		

		Acres	AUMs	Kind of Livestock	Season of Use
Eighteen Mile	Public Land	228840	14753	Cattle/Sheep	5/1-1/31
	Other Fed.	14896	858		
	State	1922	141		
	Private	0	0		
		245658	15752		
Figure 4	Public Land	114425	7931	Cattle	5/10-1/10
	Other Fed.	0	0		
	State	1517	72		
	Private	1751	474		
		117693	8477		
Sublette	Public Land	66029	4548	Cattle/Sheep	5/1-1/31
	Other Fed.	2474	170		
	State	5272	368		
	Private	120	9		
		73895	5095		
Boundary	Public Land	29995	2658	Cattle/Sheep	5/1-1/31
	Other Fed.	0	0		
	State	1953	178		
	Private	80	8		
		32028	2844		